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VICK'S MAGAZINE.

M A Y, 1881.

AT THIS SEASON the scarcity of vegetation is a pledge of the fruition that we anticipate. With many forebodings have we waited through the dreary winter months, and it is not until this time, in many parts of the country, that we are able to discover the direful effects of the severe and protracted cold. Where the snow has given protection no harm has resulted, but many shrubs and other plants that usually pass through the winter in safety have been destroyed —Roses, especially, have suffered where they have been unprotected; Raspberries, Blackberries, some kinds of Grapes and Peaches have been injured according to their exposure. Even now the full extent of the winter's damage can scarcely be determined. The value of such winter protection as may be given some plants by laying them down in the fall will be better appreciated after our present experience; so, also, will that protection that is given by screens of evergreens be more sought after. One thing that was well understood before has again received full exemplification, that those plants that are hardy under ordinary circumstances are seldom injured by the direct action of the frost, even when the cold is unusually intense; the great damage is done by rapid thawing immediately after a severe visitation of cold. Whatever in such circumstances may prevent sudden thawing will protect from injury. In garden operations it is always desirable to give more attention to shelter than is commonly practiced.

Let us improve our opportunities by learning any lessons our losses by the weather may teach, and make the past experience our future

guide. Now we have no time for vain regrets; all should be activity while

“Showers and sunshine bring,
Slowly, the deepening verdure o'er the earth.”

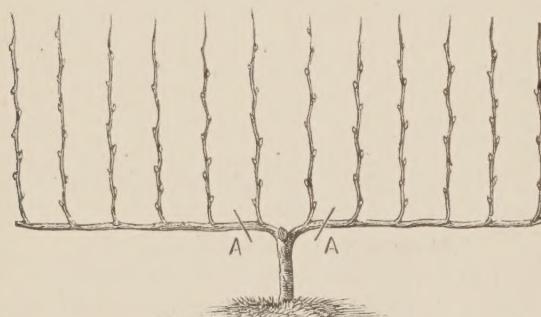
We have had time to fully mature all our plans of gardening operations, and should know just what is to be done, and the best way to do it; work, work with a will, is the order of the day. With a promise of the harvest that shall follow the spring-time, we may now respond to nature's heart-beats of joy.

“There are notes of joy from the hang-bird and wren,
And the gossip of swallows through all the sky;
The ground-squirrel gayly chirps by his den,
And the wilding bee hums merrily by.”

As the thought occurs to us that, as we sow, so also shall we reap, without moralizing, we may suggest that, the present is the spring-time of the future, and each may make application of the truism according to his humor or his needs. One may renew his forecast of the results of the spring's work, not only in the ensuing autumn, but in succeeding years. The vine or the trees we now may plant may supply us with their generous fruits or grateful shade in years to come. But if, perchance, it may seem extremely doubtful that anything we might plant for a remote future, would be of any avail to us, let us not on that account neglect it, if otherwise the opportunity be favorable. In all permanent planting, the benefit of others should be considered, and, if this spirit shall animate us in our actions, we may confidently expect an autumn of beautiful soul-life, as the proper out-growth of the good-will nurtured in the spring-time of the present.

THE CULTIVATION OF THE NATIVE GRAPE.

From what has already been said, our readers will understand that the trellis system of training is referred to. The method of supporting vines by upright trellises has proved itself in this country to be most serviceable both for vineyard and for garden culture. Other methods have been tested, and, in a limited way, are yet employed, but judgment of the majority of cultivators is given in favor of the upright trellis, which for the vineyard is now oftenest constructed with wire. By reference to the illustration of the three-year-old vine given last month, it will be seen that the growth is so regulated as to dispose the wood evenly, and the vine is symmetrical and well-balanced.



THREE-YEAR-OLD VINE IN THE FALL.

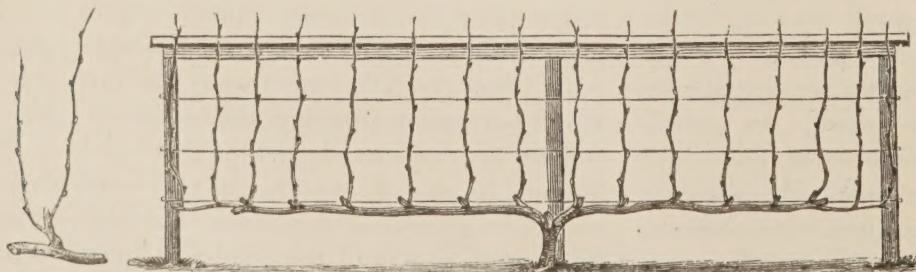
The tendency of the sap is always to run to the extremities of the branch, and especially to pass directly upward from the roots; for the purpose, therefore, of regulating the flow of the sap and distributing it as evenly as possible to all parts, the arms are extended horizontally, and from each of these the same number of uprights are raised. It will not do to greatly disturb the balance of the vine by allowing much more growth on one side than the other, for, in that case, the sap will pass in undue proportion to the stronger part. How large a vine may be grown depends upon its natural vigor, and upon the nutriment it receives. Vines have frequently been extended over a large surface, but it is by supplying them abundantly with all the necessary fertilizing materials; the great vine of Black Hamburg at Hampton Court, England, is an example of great size produced

by skilful management. In ordinary practice it has been found expedient to limit vines to a comparatively small area. Vines extended over a large surface do not yield fruit in quantities corresponding to their size, and economy of space requires that they should be kept within certain narrow limits. The yearly pruning of the new shoots prevents the roots from running far; thus, limiting the growth of the top, practically controls and limits the range of the roots.

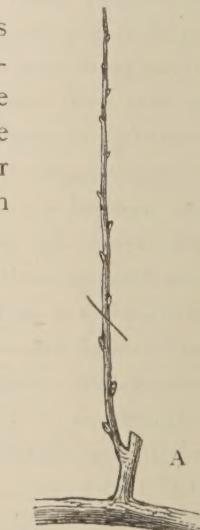
As already remarked, the sap in a vine seeks the highest part in the most direct manner. This a physiological fact that should be well understood; and to make it quite clear, we would say, that an upright vine, having several lateral branches produced the year previous, would increase the size of those branches very slightly compared with the growth it would make at its top; the sap would flow strongly to the highest point, and but little of it would be diverted to the side branches. All the methods of pruning that are practiced have primarily in view the object of distributing the sap evenly to all parts of the vine, so that the crop of fruit may be developed as equally as possible on all parts.

Different kinds of vines vary greatly in their habits of growth, and it is necessary to allow the stronger kinds more room than those that are of a moderate or light growth. It requires a closer observance of all the principles that govern its growth to prune properly a weak vine, than a strong one. Whatever general method is followed in pruning, the skilful operator must depend to a great extent upon his intimate knowledge of the subject with which he has to deal, and upon the good judgment by which such knowledge is applied.

The Delaware and the Concord are good examples, respectively, of moderate and strong growers, and as such they require different treatment from the hands of the pruner. Up to the time the vines are three years old, or until they are in the condition



FOUR-YEAR-OLD STRONG VINE, OR SECOND YEAR OF FRUITING.



SECTION OF ARM WITH SPUR OF SINGLE CANE.

of the vine represented in the illustration, bearing its first crop of fruit, their treatment is practically the same; but at the next season of pruning, different courses are to be pursued with the weak or moderate growing vine and the strong one. The relative vigor of the different kinds of vines cannot be overlooked, and the treatment different subjects require should be accurately perceived. Supposing that a vine of the Delaware has been brought into the condition represented by the engraving of the three-year-old fruiting vine, in the fall of the fourth year its pruning consists in cutting away both arms just beyond the first cane on each side, as indicated by the lines A, A, leaving only the two central canes. These canes are to become the arms for the next year, and are, consequently, laid down horizontally and tied to the lower wire. In spring, the buds are to be

very generally accepted as proper for most kinds, and with satisfactory results. In good garden soils it will be well to allow at least ten feet to the strongest kinds, while eight feet will be sufficient for Delaware, Brighton and others of similar habit.

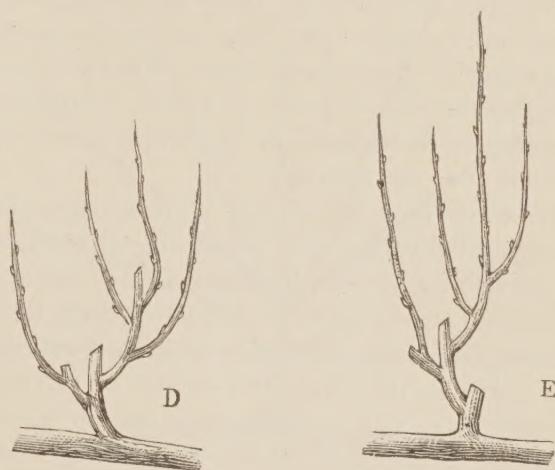
Let us now consider how we should proceed with a Concord vine, or other strong grower, after the first season of fruiting, for, as has already been stated, until that time the treatment of all kinds may be the same. Now, instead of renewing the arms annually they are to remain permanently, and the renewal will be confined to the canes. It is found that much of the strength of a vine is required to sustain the old wood, or rather to produce its necessary annual increase; strong vines have the requisite vigor or force to expend for this purpose, and it is rather an advantage to use it in this way, thus checking the natural exuberance of growth.



SECTION OF ARM WITH SPUR
OF FIVE-YEAR-OLD VINE.



SECTION OF ARM WITH
SPUR OF DOUBLE CANE.



SECTION OF ARM WITH SPUR
OF FIVE-YEAR-OLD VINE. SEC. OF ARM WITH FRUIT-
ING SPUR OF 6-YR. VINE.

selected from which the new canes are to grow, and the others are rubbed off. As the young shoots grow, they are to be carefully tied up, and strong canes may be expected if the soil is in suitable condition. The buds for the central canes should have been selected as near as possible to the main stock, for these in their turn, as the others the last season, are to be employed as arms. With the greater strength of the vine this year a larger crop of fruit may be taken, the vine being allowed to carry what it is able to perfect well and ripen its wood, this depending much upon the character of the season.

Hereafter the pruning will be essentially the same, thus renewing the whole of the vine above the main stem every year. This style of pruning may very properly be called the arm-renewal method.

In vineyard practice, Delaware vines on light soils are often planted six feet apart, while Concords on strong soils will easily occupy twelve feet; a medium distance of eight feet has been

Supposing the arms have not yet reached the full length desired, they may be extended by laying down the canes at each end of the vine; it is considered best not to lengthen the arms too much at once, for the reason that a heavier crop of fruit would set than the vine would be able to carry. An increase of vine sufficient for two new uprights may be all that is desirable at one time. Having pruned the end canes long enough to leave the two buds from which the new canes are to be grown, the remaining portions of them are brought down to a horizontal position and tied to the lower wire, and the extra buds rubbed off; thus they form the extremities of the arms. After this, all the remaining canes are to be cut away, leaving only one strong, well-developed bud at the base of each of them. There are usually one or two small or imperfectly developed buds very close to the base of each cane, but these are not considered; the cut is made just above the first strong, plump bud. The vine prepared in this

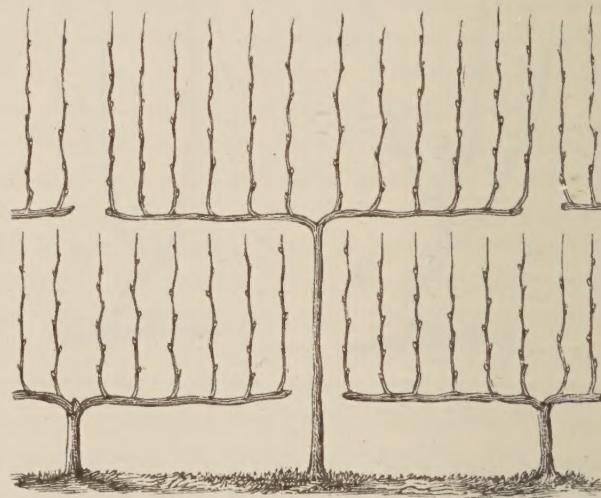
manner for winter consists merely of the two arms with the little spurs. From the single buds of the spurs, and from the buds purposely left on the new extension, new canes are to grow the following spring. The illustration of the four-year-old vine gives an idea of the appearance of the vine after the fall pruning, if it is regarded without reference to the uprights or canes that there appear. The engraving represents, as a whole, the vine after it has made its new canes the following year, only the leaves are purposely omitted to better display the skeleton. It is evident the four-year-old vine is the same in form as the three-year-old, except the arms are longer and there are eight canes instead of six.

If a vine should be unusually strong, and evidently capable of carrying more fruit than the single canes will allow, instead of leaving only one bud on the spur, two may be left on every other spur, and the following spring, from these may be reared two canes, as shown by the engraving of a section of arm. Thus it is evident that the vine is held in control; its fruiting capacity is developed, in a certain sense, in subjection to the operator.

We have now traced the vine through two seasons of fruiting, and, supposing it to have shown itself vigorous, by maturing its crop, and by making strong canes and ripening them well, we may reasonably expect more from it another year. Up to this time the course of pruning pursued has been the common one, in which the canes are annually renewed by cutting them back in the fall to one or two eyes and rearing again a single cane or a pair of canes from the spur, and this method can be continued, if preferred, and will give fair results; it is a method much in use in all parts of the country. But from this period in the life of the vine it may be subjected to a style of pruning that has been proved by thorough trial to be far more satisfactory. As an evidence of its value, it may be stated that the vines at the Ganundawah Fruit Yards, at Vine Valley, in this State, have been pruned according to it, and for the last two years the Concordes have borne an average of six tons to the acre, and the vines are now strong and healthy, and promise an equally heavy crop this year. This method will now be explained.

To prepare the vine for the coming season, after it has dropped its foliage we will prune it by shortening every other cane to three buds, and the intermediate canes to one bud each. It is expected that strong canes for future fruiting will grow from the spurs shortened to one bud, and that they will produce little or no fruit the present season; the fruit this year is to be borne on the new growth from the long spurs.

The appearance of the canes that have been cut to three buds after the next season's growth may be understood by reference to the engraving of the third year fruiting spurs; **B** and **D** represent such spurs, while **A** and **C** show the forms of the canes or spurs of the previous fall from which they were formed. We suppose **A** to represent a single cane of the four-year-old vine in the fall; the upper part is cut away as indicated by the small line, leaving a spur with three buds. In the spring the buds on the spur grow, forming three canes, shown at **B**. If, in the case of a very robust vine, two canes have been allowed to fruit instead of one, as at **C**, then the pruning will consist in cutting one of the canes to three eyes, as in the single cane, and the other one to one bud; the following year, the growth will appear as at **D**. Thus, during the third season of fruiting, or the fifth season after transplanting, the fruit is borne on spurs like **B** and **D**; and alternating with these spurs are single canes. The next season the single canes are to be brought into the condition



VINES IN TIERS.

of the spur **B**, which is done by pruning to three buds in the fall of the fifth year; at the same time the spur **B** is to be shortened as indicated by the cross lines, that is, the branch at the left is reduced to one bud, the central branch is removed entirely, and the one at the right cut to three buds. From the three-branched spur **B** will be formed the following year a spur with four branches, essentially the same as that shown at **D**. It is evident that this form of fruiting spur can be re-formed from year to year, and that with it there is always the greatest amount of new wood for fruiting purposes that the space will admit. Whenever it is thought necessary, less wood can be allowed, merely by cutting one bud closer. By this method of pruning, a vine may with the greatest ease be allowed to carry all the fruit it can support, or, if enfeebled by any cause, it may be promptly

reduced to dimensions suited to its capacity. It will be noticed that the spur is kept very short, thus avoiding, as much as possible, old wood, but it will gradually work up. When it becomes necessary, all of the spur above the lowest branch may be cut away and that reduced to three buds, and the process is repeated as has been described. Should a sucker start out at the base of the spur, close to the arm, it should be carefully nursed, cutting it back to one bud every year, and when necessary it can be formed into a spur, and all the old spur removed. The essential details of this style of pruning, which may be called the triple spur method, have now been described, but it must be kept in mind that its skilful practice will be governed to some extent by the judgment of the pruner.

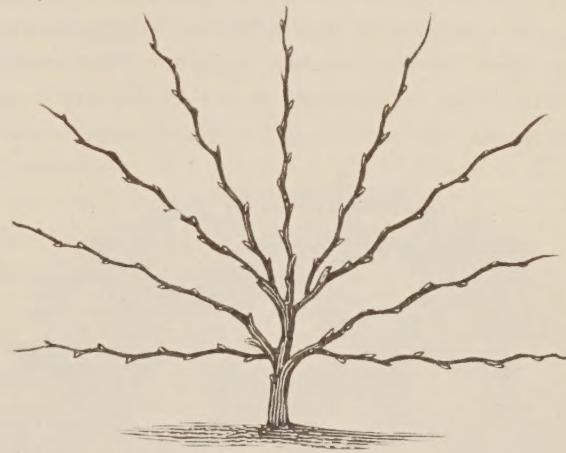
The ability of a vine to carry and perfect its crop depends greatly upon the weather, even when all other conditions are favorable; if there should be the average rainfall, then all may progress favorably with it, but in case of a drought, its effects on the vine may be shown by a comparatively feeble growth of new shoots. In this case it is necessary to go over the vines and remove a portion of the crop; if this should be neglected, the fruit would ripen late and imperfectly, and the new wood would be too weak to carry a fair crop the next season—evil results that one would not willingly allow, and of which a good vine-grower is always mindful.

As a perpendicular distance of about five feet is all that is required for vines trained in either of the methods we have now considered, in order to cover a high wall, such as the side of a house or a barn, it will be necessary to have tiers of vines, one over another, and this may be accomplished by carrying up a single stem to the proper height and then extending arms over the vines below, as will be readily understood by the engraving on the preceding page.

A form of vine called the fan style is shown, as it may occasionally be conveniently employed; the canes are shortened back to one bud every year, and thus renewed; it admits of several modifications which will, no doubt, suggest themselves; it is evident that it is only another form of the cane-renewal system.

In regard to the construction of trellises, it may be briefly remarked that, in those sections where posts and poles are plenty, trellises are cheaply constructed of these materials; in other places, slats about an inch thick and two and a half or three inches in width are employed instead of poles or rails; at present, however, posts and wires are very generally employed, on account of forming a trellis that is both cheap and good. Short stretches of trellis for

the garden may be made by setting the posts eight, ten, or twelve feet apart, and we would advise placing a cap on the top, consisting of an inch board six or eight inches wide, resting on the posts; this gives both finish and strength to the trellis. In the vineyard less attention is given to appearance, and if posts are thrown a little out of perpendicular by the frosts, it makes no difference. A distance of twenty-four feet between the posts is now adopted by good vineyardists. A garden trellis, that is usually from sixteen to twenty-five feet in length, will be quite firm, made as proposed above, and three horizontal wires running from end to end completes the structure. Its appearance is shown by the annexed engraving. The lower wire is placed about eighteen inches from the surface of the ground and the other wires a foot apart and the upper one a foot from the top of the post; thus the trellis is four feet and a half high.



FAN-SHAPED VINE.

In wiring the trellis, the wires are first to be fastened to screws or to strong nails that have been driven into the outer edge of one of the end posts; similarly these means of attachment must be provided for the other end post, and then the wire is strained by means of a strong, round, hard-wood stick, or iron bar, used as a lever, resting one end of it on the side of the post. When the wire is taut, the lever can be slipped or pushed backwards on the back corner of the post, and thus the wire bent around the post and secured to its place. The wires are held to the intermediate posts by shingle nails. Annealed wire should be used, and number fourteen is large enough; in vineyards number twelve is used. The posts used in vineyards are sharpened at one end and driven into the ground, and have no cap or rail along the top; in fact, the trellis is made in the cheapest and simplest way. If a post is leaning, or has become loose, it is straightened and driven down a little farther into the ground, and to allow for this, the lower wire is at first placed twenty to twenty-four inches from the surface.

THE TREE PÆONY.

What abundance of vigor and wealth of bloom is shown by a good specimen of the common garden Pæony! This, too, is the first thought when we see a well-grown Tree Pæony.

The Shrubby, or Tree Pæony, *Paeonia Moutan*, was brought from China at the close of the last century. When first noticed by Europeans it was much cultivated and highly prized in its native country. ROBERT FORTUNE, the celebrated horticultural traveler, described very particularly his visits to the Chinese cultivators of this plant. He tells of one locality, about six miles west of Shanghai, in the midst of a vast cotton country. On his road thither he met great numbers of coolies, each carrying two baskets of plants of the Tree Pæony in full flower; they were carrying them to market to sell. When he arrived at the gardens he found a great quantity of these flowering plants, and they were of remarkable beauty. The establishments that cultivated the Tree Pæony were numerous but very small. They appear like



TREE PÆONY PLANT

cottage gardens, and are cared for in the same manner, or, in other words, by the members of the family; the women took as much part in them as the men, and he remarked of these representatives of the fair sex: "They are very avaricious and love money passionately; when they have been consulted, I was always obliged to pay dearer for my acquisitions than I should otherwise have done." The cultivation and propagation of the Tree Pæony was thoroughly understood by the Chinese, and European gardeners learned and practiced their methods.

Mr. FORTUNE wrote that large-sized specimens of the Tree Pæony were frequently found in the gardens of the mandarins. He described one in the suburbs of Shanghai which produced annually from three to four hundred flowers. "The proprietor," he said, "took as much care of it as ever did the most enthusiastic amateur

of his Tulips. During its season of blooming it was protected from the strongest rays of the sun by a canvas tent; in front of it was a seat where a visitor could have a full view of these magnificent flowers. Every day for several hours the old man would sit there and, while bowls of tea and pipes were successively brought to him, he was caressed by the smiles of his favorite 'Moutan wha.' It was certainly a noble plant, well worthy the admiration of the old amateur, with whom I sat a long time under his tent, enjoying the beautiful sight."

The general appearance of the flowers is like that of the herbaceous kinds. The leaves are very large, bipinnate, and the leaflets are unequally cut or lobed. Full-sized plants are from three to five feet in height and about the same dimensions in breadth. In the latter part of May, in this climate, the ends of the shoots are terminated by the large flowers; at that season the plant is a grand sight. It is considered quite hardy in most parts of the country, but we have found that a slight protection is a decided advantage to it. The plants are comparatively difficult of propagation and, therefore, are never very plentiful or low-priced. They are increased by grafting on pieces of the roots of herbaceous sorts. The attention and skill bestowed on this plant have resulted in a great number of varieties, many of which are offered only at high prices. A variety that is quite popular and much cultivated is that shown in our colored plate, and known in the trade as Banksii, or Banks' Tree Pæonia. As a low shrub for small lawns it is a very desirable plant, as the beauty of its foliage alone in such situations entitles it to favorite regard.

A WORD IN SEASON.

We know that none of our old readers will treat Asters and Balsams by the rough and ready method often seen; but, for fear that among our new recruits may be some who know no better, we wish to make an open protest against sowing the seeds of these beautiful plants in little round rings, or in clumps, and letting the plants stand where they come up. If the seeds are not sown in a hot-bed or cold-frame, they may be sowed in rows, thinly, in a warm spot of sandy ground, and, when the young plants are from two to three inches high, they should be carefully lifted and transplanted, singly, four or five inches apart. They will now make a great number of roots, and start out little branches. When the weather is quite warm and settled they may receive their final move where they are to flower. They will move with a good ball of earth.



ROSE GOSSIP.

Since my last gossip I have been looking over the paper read by H. B. ELLWANGER before the Western New York Horticultural Society on the subject of Roses of American origin, and I find that I was in error in limiting the number of American Roses to forty, the correct number is fifty-three. Were the Roses in question those of European origin, this scruple might savor of hair-splitting, for in one class alone, that of Hybrid Perpetual, LACHAUME enumerates nearly one thousand sorts, and the list is far from being complete. But it becomes a matter of grave importance to suppress thirteen varieties, when our list is composed of only fifty-three. Speaking of the Prairie Rose, a class indigenous to this country, Mr. E. deplores the fact "that no further development of this really valuable class has been made. There is no reason why we should not succeed in obtaining a new class of hardy climbers which shall in a great measure combine the good qualities of the H. P., Noisette, and Prairie Roses. By patient study and care this may be done. Who is there that will do it?" This pertinent question is asked by Mr. E. Our reply would be this, that the person who could confidently hope for the greatest measure of success, not only as regards the production of new varieties in the Prairie, but in all the classes, is Mr. E. himself; or, at least, he might be one of many who should lead the way. It is a striking case of "noblesse oblige." Mr. ELLWANGER is an ardent lover of the Rose; its origin, history, habits, requirements, and sportive freaks, are all an open book to him. He possesses facilities for carrying out the attempt enjoyed by few. He has the triumphant example of BENNETT to stimulate him, and he has a lively conviction of the defects of the slip-shod French system to warn him; in a word, he has the most perfect and intelligent theory to guide him, and his thorough success would be reduced to a simple question of time, the time necessary from the seed to the flowers. This would be a far more agreeable

and glorious way to increase the monograph of American Roses than the tedious and distracting researches that brought it into existence.

Let us talk about Rose shows, and, as a magnificent specimen, that was one held in Paris in June last, at which Mr. LEVEQUE, the celebrated rosarian, exhibited 2000 Roses, of which number 1500 were dwarfs in pots, containing, just think of it, 600 distinct varieties. He exhibited 200 varieties of Teas alone! and, besides all this, it was a display on his part "hors concours," that is, they were not entered for competition, but formed a generous and gratuitous contribution from M. LEVEQUE to the success of the show. When one individual could make such a princely display, we are enabled to form some idea of what the general effect of the whole exhibition must have been. A reporter, speaking of M. LEVEQUE's exhibit, pronounced it to be unsurpassed from every point of view, as to luxuriant vigor of plants, profusion of bloom, and choice varieties. Our Rose shows fall far short of this, and the combined display of all the competitors at one of our exhibitions could scarcely equal this individual effort.

The *Gardener's Chronicle* has seen specimens of a fine new Rose, issue of Rosa Polyantha, originating with a French rosarian, and sent out under the name of Anne Marie de Montravel. The Rosa Polyantha, in its typical form, produces clusters of single, white flowers, but under the influence of care and generous culture often gives double flowers, and the variety now offered is said to be quite fixed. It is dwarf in habit, extremely floriferous, blooming in clusters of six, and will prove an admirable Rose for pots. An English amateur speaks in high terms of PAUL's new climbing H. P., Red Dragon, which was exhibited at the Botanical Society, London, the past summer. He says it attracted universal attention and received unqualified praise for its vigorous habit and the profusion of grand, richly-colored flowers. At the same exhibition a new Rose, the Little White Pet, a variety of the Fairy Queen, was

displayed. It was much admired for its tiny, beautifully-shaped flowers, and its graceful form. It is finely adapted for pots.

The Royal Society, at a meeting in July last, awarded first-class certificates to the following new Hybrid Perpetuals: Messrs. Jonitt (Crans-
ton & Co.) This rose is very full, well-formed, somewhat in the style of Marie Baumann; crimson-rose in color, and very fragrant.

Duchess of Connaught, (Noble) full-color, brilliant crimson, with the delicious perfume of the old Cabbage Rose.

The spring catalogue forms the unstable basis of many flower-decked air-castles, and, inspired by them, we, in imagination, lay out gardens of bewildering beauty, and adorn them with flowers of transcendent loveliness; but when the time for action comes, we are awakened to a realization of the cruel fact, that fruition falls far short of desire, and we are amazed and disenchanted to behold under the matter of fact glare of a July day, a garden so common-place, straggling, and weedy, that it bears not the faintest shadow of resemblance to that ideal Eden which had gladdened and brightened so glowingly our darkest, coldest winter days. There are Rose catalogues and Rose catalogues. To an amateur, should he be a novice in Rose matters, nothing can be more perplexing than the examination of several catalogues, coming from different sources. Their statements and descriptions of Roses are often so contradictory that he is bewildered. In the matter of Perpetual Moss Roses, for instance, one catalogue will give a list of a dozen and a half, and speak highly of all of them, another will present a list of three or four in the same class, and inform you that they are the only ones worth growing. One catalogue says that Perpetual White is a magnificent flower, elegant, large, full, and will even add, very double, beautifully covered with moss, blooms in large clusters, pure snowy-white, a constant and profuse bloomer, &c. Our amateur is delighted, and at once places Perpetual White on his list. But to his great dismay a moment later, in examining another catalogue, he finds the same flower dismissed in the most summary manner, with the remark that "it cannot truly be called perpetual, and is only slightly mossy." One says that "Lion of Combats is a magnificent flower," another says, "Lion of Combats is not altogether desirable, and fades quickly in the sun." "American Banner is perfectly splendid, a lovely, striped Tea, fragrant," &c. "American Banner is a poor flower, not fragrant, and deserves notice simply as a curiosity." There are various causes which lead to widely different results in the cultivation of the same plant in

different localities, such as climate, quality of soil, and mode of growing. The American Banner is a case in point. This Rose is now almost universally acknowledged to be, in this country, a decided failure, wanting in vigor, fulness, perfume, and prolific bloom. While in Europe, grown as a budded plant, it is meeting with much favor, and is highly spoken of as regards vigor of growth, reasonable fulness, and profusion of bloom; in fact, displaying in an eminent degree the identical qualities it seems to lack here. It would, therefore, seem that one experiment remains to be tried in order to give it a final chance to redeem its reputation, or, rather, to acquire a good one, that is, to bud it.

The absolutely faultless Rose is not yet in existence, though we had fondly hoped that it was to be found among the new Hybrid Teas, and we still firmly believe that the advent of the Rose of the future is heralded by this promising new class.—F. LANCE.

TELLING AN EXPERIENCE.

MR. VICK:—Your MAGAZINE reminds me of an old-fashioned revival meeting, such as used to be seen in all its glory in some out-of-the-way place, where houses were few and far between, and the one "meetin' house" was all in all. Each told his experience, and your correspondents will tell theirs. But I think your MAGAZINE is doing quite as much good as that did, for even there the pharisee could talk quite as glibly as the humble penitent.

But there is no deception in the language of the flowers. They are not necessary to our lower, material life, and, just for this reason, they speak unmistakable of the love of their unseen Creator. There is much that is hard and productive of sorrow in this sin-plagued world of ours; and, had we no flowers, I believe existence would be hard to be borne.

As many suicides as there are now, there would, no doubt, be an infinitely greater number were there no flowers. As much as our insane asylums are crowded, and with an increasing tendency to insanity in the human race, as it is stated, what would we be were there no flowers? It would be interesting to know if criminals ever cultivated flowers; I believe not. Too much intensity is engendered in the struggle for a living which must constantly be going on; and flowers are a healthy diversion which, for short periods of time, may cause us to forget the hard phase of our lot.

It used to be common to hear farmers, and sometimes their wives, ask, "What are flowers good for? heave um away and plant taters." Not a spoonful of their precious, barn-yard

manure could be spared for the "gals" to waste over "posies" that could not be eaten; but at the same time barrels without number of liquid manure were allowed to run to waste, which would have fertilized many an acre, and produced a fine crop of hay. I knew one enterprising farmer who dug a drain from his barn cellar, under the road, to a meadow opposite, because every spring he had so much liquid manure he did not know what to do with it. His drain was lined loosely with stones, and before the liquid treasure—worth gold to him—could get to his meadow, it sank into the gravel under the road, to enrich that. No wonder that farmers have more money than they can invest. This same man dug up Rose bushes which grew each side of his front door, every year of his life. Some loving hand had planted them there before he was born; they were persistent, and so was he.

A magazine devoted to information on flowers is what every lover of flowers must appreciate. This magazine family is a widely scattered one, from sterile Massachusetts, which has only a "skim-coat" of soil, to Australia, where according to some of its correspondents, there is, in places, a depth of twenty-five feet of loam.

The wondrous tales which correspondents have to tell of happy accidents and incidents in gardening, give us fresh hope and courage, and numberless will be the experiments, no doubt, which will thereby be stimulated.—ESDI, Newton Center, Mass.

ABRONIA UMBELLATA.

MR. JAMES VICK:—The umbelled-flowered Abronia, *Abronia umbellata*, is a charming, half-hardy annual plant, with prostrate stems, and ovate leaves, producing its beautiful, sweet-scented flowers in close umbels on long petioles in the greatest abundance, from June until frost. This pretty species somewhat resembles a *Verbena*, both in its style of growth, and, also, in the appearance of its flowers, which are deliciously fragrant, especially in the evening. The flowers are of a delicate pink, with a whitish eye, and are wax-like in appearance, and, as the plant continues to bloom in the greatest profusion during our hot, dry summer seasons, it should be found in all collections where choice annuals are grown. The Abronia belongs to the natural order Nyctaginaceæ, and is a native of California, whence it was introduced in 1823. In California it is said to grow in the greatest luxuriance in almost barren sands, where it is exposed to the full blaze of the sun from morning till night, thus covering the earth with a carpet of flowers. Mr. HART-

WEG, in 1848, found it growing in the loose sand near the sea shore at Monterey, Mexico, and described it as creeping upon the ground, and emitting numerous roots from its prostrate, glutinous stems. On account of its spreading habit, a well-grown plant will cover a space of three feet in circumference in a single season. For bedding purposes, the plants should be placed about a foot apart, while for rock-work no plant is more useful.

The Abronia is a plant of easy culture, flowering best in a light, sandy soil, fully exposed to the sun, and on no account should it be planted in a low, damp, shaded situation, or in heavy, wet soil.

To secure early-flowering plants, the seed should be sown early in spring, in a well-drained pot, or pan, of light, sandy soil, sowing



thinly and covering slightly, placing close to the glass in a warm, light situation, and, as soon as the plants are strong enough to handle, potting off into small pots, keeping close and moist until well-established, then removing them to a cold-frame, and gradually exposing them to the open air, and planting out when all danger of frost is over. The seed can also be sown in a cold-frame about mid-spring, or in the open air, where the plants are to stand, later in the season. If the seeds are sown in a cold-frame, the plants should be potted and treated as advised for early-flowering plants. The husks should be removed from the seeds before sowing, to facilitate their vegetation. In order to cultivate the Abronia to perfection, I advise that the bed be dug to the depth of two feet, at least, and a good quantity of well-rotted manure worked in. When the frost has destroyed the plants in the fall, remove them from the bed, fork the soil over lightly to the depth of two or three inches; the next spring repeat the operation, and in a short time a quantity of young plants from the self-sown seed will make their appearance, and will give a good account of themselves during the ensuing summer. Manuring the bed the first season is necessarily a part of this method.—CHARLES E. PARRELL, *Queens, L. I.*

ROSES sent from Visalia, Cal., April 1st, were received here in fair condition, April 9th.

THE CUCUMBER.

No vegetable is more generally cultivated than the Cucumber, and it is a special favorite in most warm countries, and in the old or earliest settled portions of the world, Egypt, Persia, India, and China. Our common Cucumber is supposed to be indigenous to Asia, though the genus is represented by different species in most warm countries. This vegetable is so easily grown in most parts of America, and is sold so cheaply, that it is not appreciated. We see it for sale in our markets in a condition certainly not very tempting. Tumbled into baskets and boxes, and exposed to the sun and wind for days, and sometimes, perhaps, weeks, it is not strange that it is thought to be indigestible; indeed, almost unfit for human food. A well-grown Cucumber, cool and crisp, I believe to be to most persons as grateful and as healthful as an Orange. I have lived in countries where it was the highest ambition of the gardener to produce fine Cucumbers, a work requiring a good deal of skill; and happy was he when he could present to his employer a pair of fine specimens before any of his neighbors had received such a treat. The gentleman, too, usually felt as much gratification as the gardener, and several times would take occasion to inform his friends that he had picked his "first brace of Cucumbers to-day." When exposed for sale in the shops, they are carefully laid upon green moss or leaves, and look quite appetizing.

There are few prettier sights to me than a Cucumber house, when in fruit, and in England I have seen many of them; indeed, I think they are more common than Grape houses. The greater part obtained for the early market are grown in this way. Next comes the hot-beds, and at any time it is next to impossible to grow Cucumbers without the aid of glass. The fruit grown in Europe is very long, and much superior in size, if not in quality, to that usually grown in this country, being very solid and bearing but few seeds; so few are the seeds, that often a full-sized Cucumber, when ripe, will not contain a dozen seeds, and sometimes not a quarter of this number. So anxious is the English gardener to obtain handsome, straight specimens, that often what are called Cucumber glasses are used. These are long, glass tubes, eighteen inches or more in length, in which the fruit is placed when small. By this means it grows straight, is clean, and it is thought the color is improved by the process. When full grown the glass is nearly filled, but not so full as to make removal difficult. These large, foreign Cucumbers require great heat to bring them to maturity.

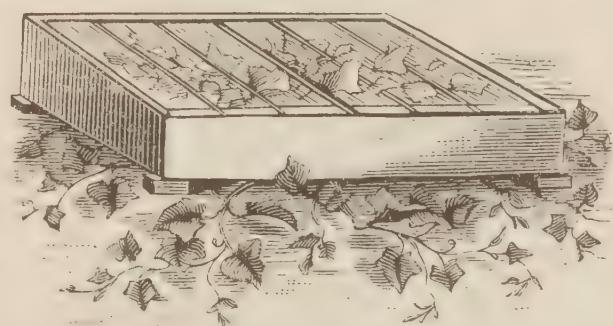
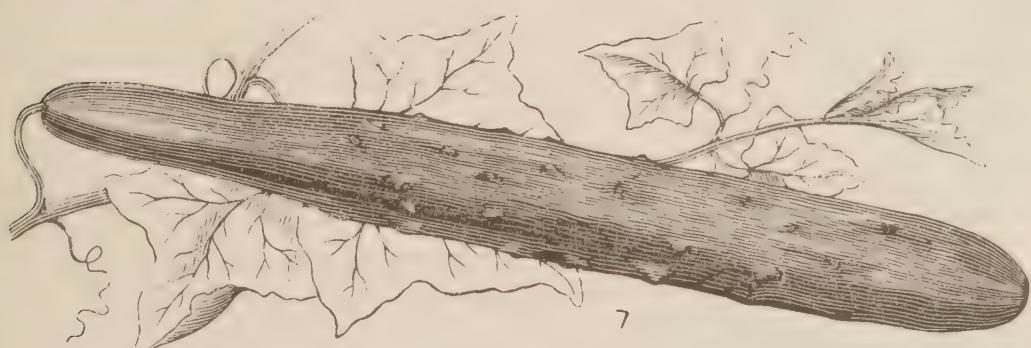
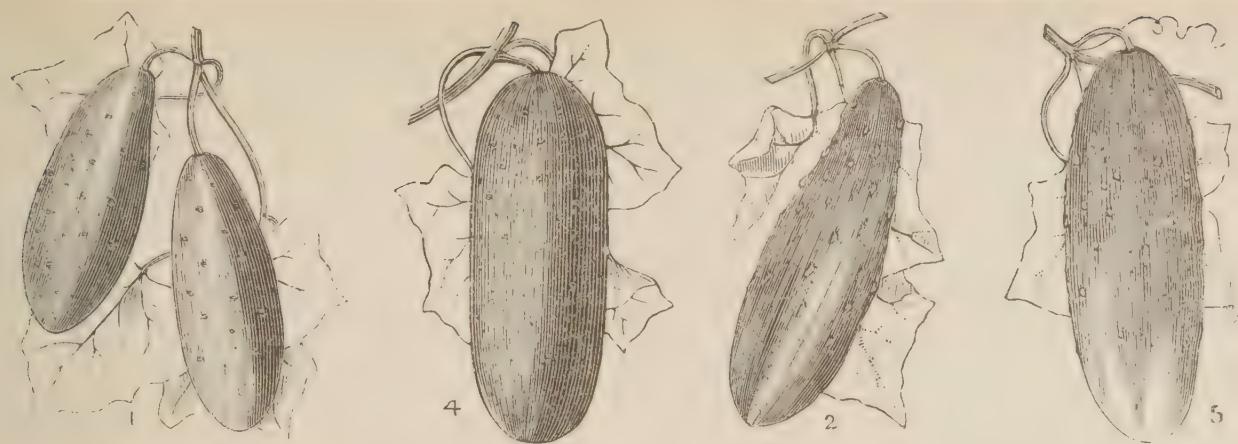
Fortunately, in this country we can grow Cucumbers without so much trouble and expense, especially the small, native varieties, though, if an early crop is desired, artificial heat must be used. One of the best methods is the ordinary hot-bed, and if this is managed properly, the result will be highly satisfactory. The Cucumber will bear almost any amount of heat, if accompanied with sufficient moisture. Cold nights are most to be dreaded by the gardener, and here many fail. Give no air chilly nights, and cover the glass in severe weather with mats, or something of the kind, otherwise you will soon notice the leaves turning yellow and looking sickly. After the vines have filled the frame, if the weather is mild, it can be raised by putting blocks or bricks at the corners, thus allowing the vines to escape and find room for growth. Later, the frame and glass may be entirely removed, but abundance of water must be given, for the Cucumber likes rich food and plenty of water.

For a second crop I merely place a barrowful of manure for each hill, raising the hill some six inches above the surface. After planting the seed I put a hand-glass over it. This may be a simple box, with a light or two of glass on top, which protects from wind, and is especially beneficial cold nights. When the plants commence to run, the boxes may be raised like the hot-bed frame. When glass is used, it is sometimes necessary to shade in bright suns, or the leaves will burn, and also give a little air, but be careful of draughts, for the vines will take cold as easily as a person perspiring in a warm room.

For the last crop, for pickling and the like, I merely put seed in hills in a good, rich, warm soil, about as I would Corn.

Pick fruit young, and never allow any to go to seed, or the crop will be injured. Pinch off the tops of the leading shoots if grown under glass, as it induces fruitfulness, but I never take this trouble with field crops.—OLD GARDENER.

[Thinking it might be well to illustrate some things stated by our correspondent, and thus make him better understood, we present a group of engravings on the next page. These show the leading varieties of American Cucumbers, also a specimen of the foreign. No. 1 is Early Russian; 2, Green Cluster; 3, Netted Russian, a very curious brown-coated variety, perhaps more curious than useful; 4, Early Frame; 5, White Spine; 6, Improved Long Green; 7 is a very good representative of the English varieties. The hot-bed frame raised on blocks may be seen, and the Cucumber glasses, while at the bottom of the page we give a very fair representation of a Cucumber house with the vines in bearing.]



A GARDEN IN LOUISIANA.

MR. VICK:—We have had a very hard winter, the coldest, I think, since I can remember. The 29th of December we had ice several inches thick; a large swamp on the north of us was entirely frozen over, and the people living on the other side walked over on the ice. I am told the Vermilion Bayou was frozen over; I believe that never happened before. The Orange trees were badly injured, and a great many cattle have died this winter from the cold and starvation. The 23d of January we had a snow storm, and it was a beautiful sight; the next morning I measured snow four inches deep on the level. I had, blooming in the snow, Narcissus, Hyacinths, Violets, and Ten-weeks Stock.

The little Roman Hyacinth was in bloom the last week in November, and seeded. I never knew Hyacinths to make seed here before, and would like to know what caused it.

I hope you will pardon me if I say many items from your northern correspondents are quite as amusing to us as the accounts of our severe freezes may be to them; as, for instance, the article headed "A Large Castor Bean." And, if I am not mistaken, you say, in answer to a correspondent, the Petunia is a tender plant, and will not bear frost at all, or something to that effect. I have had them blooming in the garden in the month of January, when everything was covered with ice; it did not seem to hurt them. They were the single white, and may be more hardy than other varieties. Having no shade trees near the house, I have for several years planted the Ricinus for shade. The first year I planted them, I was amused, one day, when a neighbor stopped to ask me what kind of trees I had growing in my yard, and remarked, "I never saw trees grow so fast in my life, you had nothing growing there this spring, and now you have shade trees." When told they were Castor Beans, he appeared surprised, then asked if I was not joking; I think he left with the impression it was all a joke. Last fall I carefully measured one plant: the main stem was very straight, and measured eighteen feet ten and a half inches, and thirteen inches around where it was cut, just above the ground. It had many large branches, but I did not count them; it was growing rapidly, and I am confident, had I left it until the first killing frost, it would have gone up to twenty feet. The plant was from the seed of the rose-fruited variety, and the seed was planted the first day of June, in the hard ground, only hoeing a spot to put them down; no after-culture or manuring, and cut down the 7th of November. To prevent the plants being top-

heavy, I do not allow them to flower until late in summer; that may have some influence in their growth. I am going to try one this year with good cultivation, and will give you the result, if it grows over twenty feet.—S. T. R., Abbeville, La.

HEALTH AND PLEASURE.

MR. JAMES VICK:—About five years ago I had a severe sickness—dyspepsia, and nervous debility—and for a long time was not able to do anything, my strength and ambition both gone. A friend of mine loaned me some books to read, one of which was your *Floral Guide*, and reading it I became interested. My means being quite limited, I bought a few plants from time to time, as I could spare the money, until I had quite a number of them, still, I was not satisfied, I wanted more, and having a large yard, 60 by 100 feet, I found it required a great deal of hard work and patience to keep it in proper order. The flowers seemed to have a wonderful influence over me, for they have done in a measure what my doctor could not do, and that was to restore my health and strength. The more I worked among them the stronger I became, and was soon able to do a day's work and take care of my garden; so you can see what cause I have to love flowers.

My garden, last summer, was one brilliant sheet of flowers, and all the plants were of my own raising, except Rose bushes. I had thirty varieties of Roses, over four hundred Geraniums, most of them seedlings of my own; one hundred of the Pearl Tuberose, and one hundred mixed Gladiolus, and the prettiest bed of Diadematus Pinks that was ever seen in this city, a bed of Eschscholtzia that was very gay all summer; Lilies of various kinds, the Emperor Larkspur, Petunias of all varieties, double and single; Pansies that, planted in a half-shady place, bloomed all summer, and a large bed of seedling Verbenas; forty varieties of Dahlias, Balsams of all kinds, hardy Phlox, Phlox Drummondii that made a beautiful show all summer long, by cutting the blooms freely. My garden was not only a pleasure to us at home, but to hundreds of others around us; persons came ten miles to see it. This winter I have my garden in the house, having a large window facing south. I have all the varieties of Oxalis in bloom, the single yellow being the best bloomers, if given plenty of pot room. Smilax runs up the sides of windows; a large basket hangs in the center, filled with a very large plant of the new, large-flowered Sweet Alyssum, a beautiful plant of Othonna, with Pansies in full bloom around them. I have over one hundred pots of plants in bloom, most

of them Geraniums, Chinese Primrose, Carnations, Callas, Begonias, some splendid Azaleas, Wallflowers and Cinerarias. The Pansy I find one of the best plants for house-culture, if kept cool and moist.

So you can imagine how my window appears. I often have some Philadelphia florists over here to look at it, and they tell me there is nothing in Philadelphia that can compete with it for show; so, if that is the case, I think I am excusable for being proud of it.

I should like to relate my experience in raising Carnations from seed. One year ago this winter I was in the company of several florists, and, speaking of the improvement in Carnations in the last few years, I asked if they did not think that by crossing some of the best varieties of double ones there might be stronger and better plants obtained. They laughed at me, and wanted to know how I would get my seed. I replied I would try it. When I went home, having two strong plants of double white in bloom in the window, I started to put in operation my plan, of which I do not wish to speak at present; that was in December, 1879. Quite a number of pods of seed started to fill out, but they would not ripen; yet I was bound not to be beaten without a good trial. On the last day of February, 1880, I picked one pod of seed well ripened. I planted the seeds and got ten plants out of them in March. I then showed them to some of the florists, and the satisfaction I received was the remark, that they would all be single and good for nothing. At planting-out time I put them in the garden and, when they commenced to grow, I found that the foliage of them was all different. Next I bought Carnations of several different colors, and put the same plan in operation on them for seed, while waiting for the first ones to bloom. Afterwards I raised over eighty pods of seed from six plants, but some pods had only one or two good seeds in them. I had over one thousand seeds by actual count.

August 20th the first flower came out; it was a good one, and was just two inches in diameter, good white, and double. In order to see what it was good for, I lifted it in October and plated it in a Carnation house, beside some plants of Snowden and Peter Henderson; I thought that would be the best way to give it a trial. It has been in bloom all winter, and yesterday, March 1st, I counted sixty-five buds and flowers on it, and over a dozen flower-shoots starting to bud. I have seventy-eight plants well-rooted, and over a hundred cuttings in a cutting-box, all from this one plant, and to-day the plant is as large as a bucket, and growing vigorously; it is not as tall as Snowden. Of

the other nine plants six have flowered. No. 1 is two and a half inches in diameter and double, and is said, by florists that have seen it, to be the whitest Carnation they ever saw. No. 2 is three and a half inches, but burst its calyx. Nos. 3 and 4 are good, double, and dwarf. No. 5, three and a half inches, burst, looks like a Poppy, it is so large; good flower and bloomer. No. 6 is a beauty; while all are more or less fringed, this one is two and a half inches across, and is so perfect in its fringe and shape that it has been taken for a wax flower. Nos. 7, 8 and 9 have not bloomed as yet, but are showing buds. I have almost four hundred seedlings from the same strain, besides other colors from the best double flowers. Having no other place for them, I kept them all winter in a pit, and have just lifted and potted them.—J. F., *Camden, N. J.*

THE CHINESE PRIMROSE.

I wish to call the attention of those who prize the Chinese Primrose in the winter to the necessity of sowing seeds of it in the spring, or, at least, of not postponing it later than the last spring month; later than this it is only with the best of management that the plants are brought along so as to be of good size for blooming. I like to sow seeds of it from March to May, and thus have a succession that I bring into bloom

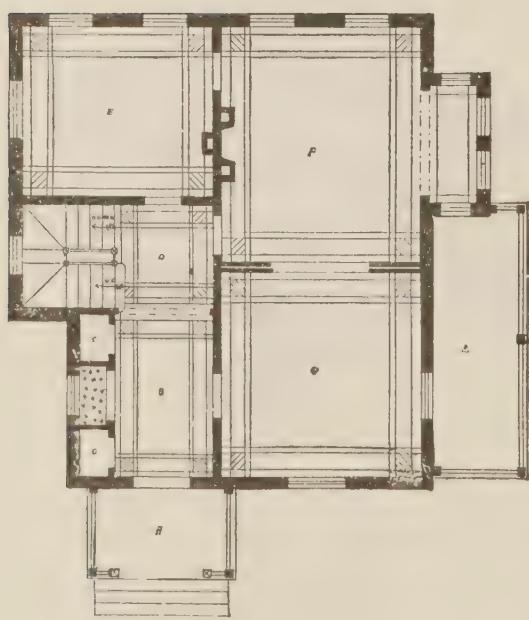


when most needed. The earliest sowing I make in a pot of sand; first moistening the sand, I sprinkle the seed over it, and then with thumb and fingers give the least covering of sand. A pane of glass is placed over the pot, which is then set in a corner of a window in my sitting-room. At the later sowings I take advantage of a hot-bed, which I give all of these plants the benefit of, and, afterwards, a cold-frame until the weather admits of full exposure.

A SIDE-HILL COTTAGE.



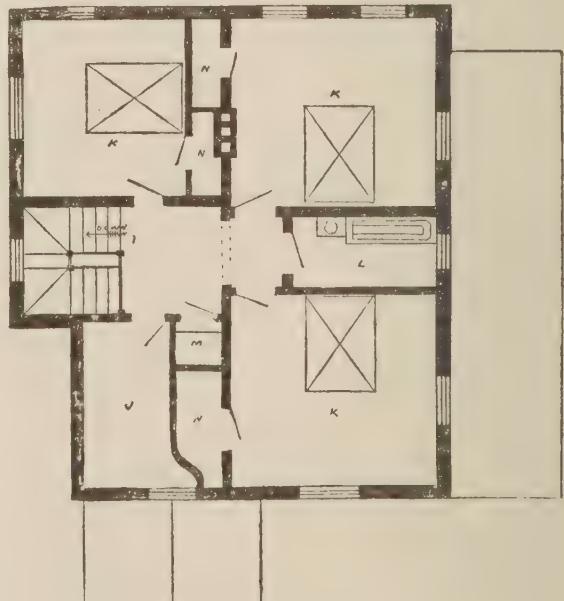
ELEVATION.



FIRST FLOOR.

A, Entrance Porch,
C, Closets,
E, Study,
G, Parlor,

B, Reception Hall,
D, Staircase Hall,
F, Sitting Room,
H, Balcony.



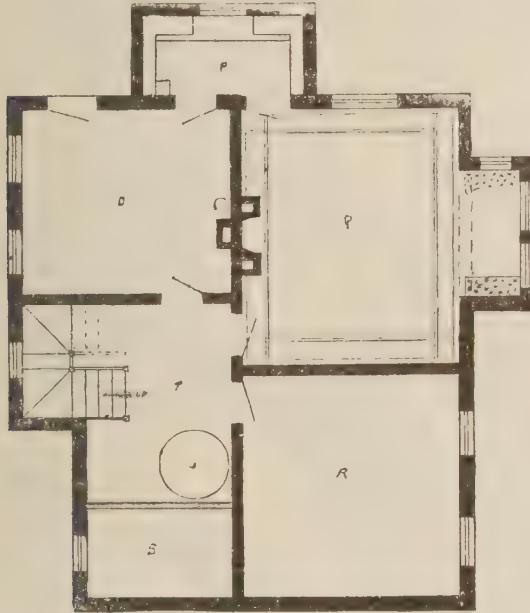
SECOND FLOOR.

I, Staircase Landing,
K, Chambers,
M, Linen Closet,

J, Store Room,
L, Bath Room,
N, Closets.

MR. JAMES VICK:—The accompanying illustrations represent a farm cottage which was recently built on Blake's Hill, overlooking the City of Springfield, Mass. It is a small and compact house, yet the rooms are of such dimensions as to render it very desirable for a small family.

The dining-room, as will be seen by the plan, is placed in the basement, size 13x16 feet; it is connected with the kitchen by a Butler's pantry in size 6x8 feet. The size of the kitchen is 11x13.6 feet, and is entered from the hall through a passage, to prevent the entrance of odors and fumes from the kitchen into the hall or dining-room. The vegetable cellar is in the northern part of the basement, and is in size 13x14 feet.



BASEMENT PLAN.

o, Kitchen,
Q, Dining Room,
S, Fuel,
U, Furnace.

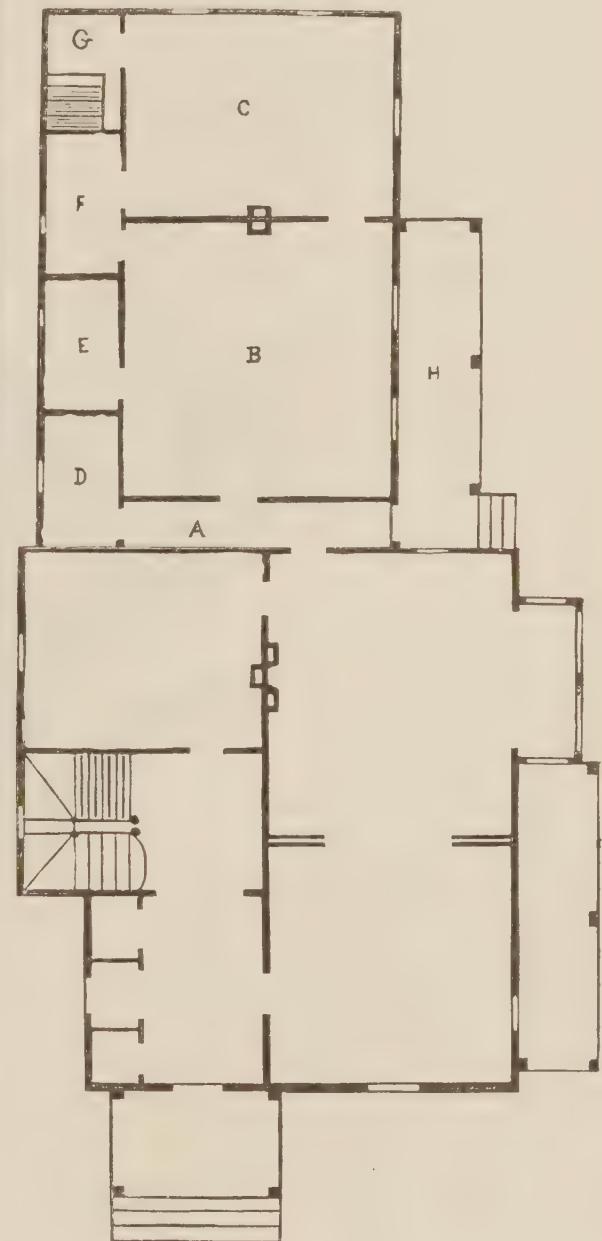
P, Pantry,
R, Vegetable Cellar,
T, Hall,

Passing the entrance-porch on the first floor, we enter the reception-hall, in size 6x9 feet, separated from the staircase-hall by an ornamental screen of hard wood. In the reception-hall are closets with window and window-seat, as shown. From the hall we pass to the parlor, 13x14 feet in size, which connects with the sitting-room, in size 13x16 feet, by sliding doors. Projecting from the sitting-room is a large bay-window, which is provided with window-seats, as indicated. The fire-place is built of ornamental and pressed brick, above is constructed a book-case, the whole being finished in hard wood. The library is in size 11x13.6 feet.

The main staircase ascends to a landing, at the top of which is a stained-glass window, which lights the hall in first and second stories,

and by its color gives a pleasing effect to the same. In the second story are three chambers, in size 13x12 feet, with closets and a store or trunk room; also, a bath-room, 5x9 feet.

The basement is built of brick laid with red cement mortar. Above this the house is of frame-work and clapboarded. The gables are covered with ornamental, cut shingles. The exterior of the house is painted an olive-gray, with trimmings of Indian-red.—GEORGE H. BLANDEN, *Springfield, Mass.*



A, Hall,
C, Kitchen,
E, China Closet,
G, Passage to Cellar and Back Stairway.

B, Dining Room,
D, Dressing Room,
F, Pantry,
H, Veranda.

The beautiful design furnished by our correspondent is admirably adapted to a side-hill situation, but, possibly, some of our readers may fancy it on a level site, in which case the basement could not so well be used as dining-room and kitchen. We think that these rooms, with sleeping rooms over them, could be provided by an extension in the rear that, in its elevation, would be in harmony with the main building. The ground plan of such an extension, with the main part, is here shown.

THE CROCUS IN THE HOUSE.

MR. VICK:—To the reader of your MAGAZINE I would say, that for winter-blooming in the house, under adverse conditions, nothing, in my experience, equals the Crocus. I never saw or heard of any flower that would stand as much abuse. I read, a short time ago, in a recent work upon window gardening, that the "successful culture of Crocuses in the house depends upon keeping them in a low temperature." It should have read, "the successful culture of Crocuses in the house depends upon keeping them in any temperature that circumstances permit." Then, I think, it would have been nearer right. I used a box one foot long

from heat to cold and cold to heat, and would have blossomed quite as early as they finally did, for, about the first of February, I was rewarded for the abuse they received with the most beautiful blossoms of dark purple, striped, orange, and white, and for three weeks they continued to give forth their flowers in the greatest abundance. One bulb had ten flowers altogether, and had five open at one time.

I have read, in several books, that the only fault of the Crocus was its short duration of bloom. Now, if half a dozen, planted at exactly the same time, keep in perfection for three weeks, what can it mean? Of course, blossoms faded during the three weeks, but others

and half a foot wide, and filled it, about two inches in depth, with soil composed of one part each of loam, sand and manure. In this were planted half a dozen Crocuses, with their upper surface just below the soil. This was done the first of November; the box was then put in the dark for one month, and then—I almost blush to tell you the subsequent treatment

they received, and how they returned good for evil. Part of the time they were kept in a room where the temperature was below 32°, and then, when discovered with the soil frozen in the box, they would be hurriedly transferred to a room where the temperature was about 80°. Sometimes the temperature of the room that they were in would not go below freezing in the daytime, but would at night; then the box would be placed in the above-mentioned furnace, and allowed to roast all night. There was one thing, however, that was never neglected, the soil was kept continually moist.

Now, I know it would have been far better if I had not delayed planting the bulbs so long and if I could have kept them in an even, low temperature, for the heat they require is not great. I suppose if planted the middle of October and kept in the cellar until the middle of January, they would have required much less attention, would have endured fewer changes

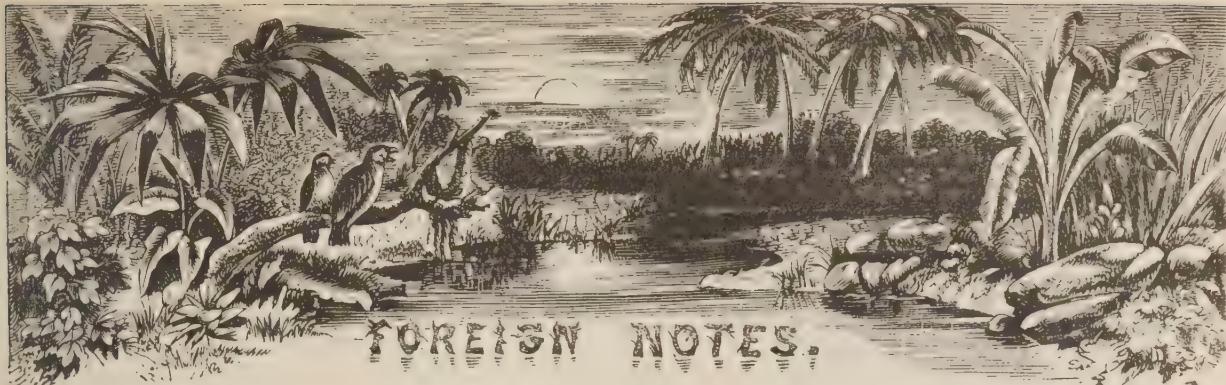
took their place. So, to all of your readers without greenhouses, and who have unsuitable places for window-gardens, or a dusty office window, I would suggest that they invest ten cents for six Crocuses, plant them, keep them wet, and the sunny smiles and bright faces of these flowers will gladden their hearts,

"Till at last the Sweet Arbutus,
Nestling close on nature's breast,
Feels a throb, a warm pulsation,
Rouse it from its dreamy rest."

—J. E. MC.

TEN-WEEKS STOCKS.—If the ladies of New England knew how satisfactory the Stocks are as winter-bloomers, I think you might have your match to furnish the seeds. I have three plants that have been in blossom without any intermission for five months, since removing them to the house in October.—MRS. F. W. R., *Laconia, N. H.*





ORNAMENTAL AND USEFUL HEDGES.

An English writer thinks "There is no reason why a hedge should not be at once efficient and ornamental, and it is certain many unsightly hedges might be easily converted into something pleasing to the eye. In some instances the living barrier becomes bare at the base, or, perhaps, from some error in management it never has been well clothed with wood to the soil. In such a case a hedge, if it forms an outside boundary, cannot be said to fulfil its mission, which is to exclude intruders of all kinds, but oftentimes proves a source of annoyance to the owner of the garden, for dogs, cats, and chickens appear to take especial delight in passing and repassing through such defective barriers. Even the worst and most dilapidated of hedges may be restored to efficiency, and may be converted into ornamental screens at but slight expense and outlay to the owner. Take out a trench on the garden side some two feet deep, extract all weeds which may be growing amongst the quick, and fill in with good soil, or if the original mould is used, mix with some rotten manure to within six inches of the surface. Then plant some strong Ivies, training the shoots up amongst the quick, and treading the soil firmly in round the roots. In the course of two or three years the Ivy will have invaded every portion of the hedge, and will form, from the soil upwards, a dense impenetrable screen, bright, fresh, and green all through the year. It may be thought that in time the Ivy will kill the quick, but it will not if the latter is allowed to grow away from the top each year, heading it back in the autumn."

It may be well for the owners of dilapidated hedges in this country to try this method of improving them. In sections where the Ivy will not stand the winter it is very probable that the Virginia Creeper may be employed for the same purpose, as it is a strong grower, making numerous branches that become very strong and tough, and its vigor will support clipping and pruning to any necessary extent. The Virginia Creeper will grow almost everywhere.

FOREIGN NOTES.

A WINTER GARDEN.

The Island of Jersey is noted for its mild and pleasant winter climate, and is annually visited as a winter resort by some twenty thousand people. The Royal Agricultural and Horticultural Society of Jersey have projected a scheme for a large and attractive winter garden that will receive the patronage of the thousands of strangers, and prove to be an additional inducement for visiting the island. From this distance of view, the undertaking appears to be a praiseworthy one, and apparently might be made remunerative. Many Americans and other foreigners, as well as Britons, make a winter sojourn in Jersey.

In connection with the above facts, it occurs to us that much might be done to develop the natural beauties of the scenery of the Bermuda Islands, and to increase them by the arts of modern horticulture. Before many years these islands will become a great winter resort for Americans, and their attractiveness might be vastly enhanced by skilful designing and planting, and it may be well for those more especially interested to properly consider this matter.

GRAPEVINE MILDEW IN FRANCE.

The journal of the National Society of Horticulture, of France, publishes the information that the Grapevine mildew, *Peronospora viticola*, that so frequently injures the foliage of our native vines, is spreading rapidly through the French vineyards. The mildew was first noticed in 1878, in the southwest of France, on an American vine; in 1879 it had reached the Rhone valley, and last year it was found in the most northwestern extremity of vine-culture in France, "so that there is no doubt but that the whole country is infested with it." A very hopeful view is taken of the situation, in the belief that the fungus will cause but little damage. It is sincerely to be desired that these expectations may be realized, but, in view of the disastrous results we have sometimes seen from this source, it is feared that our French friends are reckoning without their host.



VIEW IN THE GARDEN OF THE LUXEMBOURG.

PLANTING IN ORNAMENTAL GROUNDS.

The view here shown, republished from *The Garden*, is that of a portion of the grounds of the old palace of the Luxembourg, at Paris, and is a fine example of planting in the natural method, in such a way as to screen from view unnatural sights, and yet allowing those that are pleasant to enter the scene. The dome of the Pantheon here rises up above and beyond the tree-tops, and forms an agreeable feature in the landscape. In all ornamental planting of any extent this idea should be observed, and, even in small places, it is wonderful how much may be done by skilful planting to produce artistic and pleasing effects, and to cut off the sight of disagreeable objects; oftentimes a single tree, or a few shrubs, will effectually change the expression of a bit of ground, and the view that was commonplace, or even ugly, will be transformed to one of beauty and grace.

THE SCHOOL GARDEN.

A pamphlet has recently been published in England, showing the necessity of extending the knowledge of gardening and horticulture among the masses. The necessity of this extension the writer, T. WILKINSON, argues, is evident from the amount annually paid by England for imports of agricultural and horticultural produce when there are hundreds of

thousands of acres of good land entirely cut of cultivation, absolute waste. The remedy proposed is the practical teaching of horticulture in schools to which plots of ground should be attached. It would be difficult to give a good reason why something should not be taught in schools of subjects in which all the world are interested, and by which more than half the people earn their bread.

SALVIA HOVEYI.—The *Gardener's Chronicle* has given a full-size illustration of Salvia Hoveyi, describing it as having "something the aspect of *S. splendens* in its foliage and general character; but the flowers are blue-purple, and the calices dark purple, so that it might be regarded as a purple form of *S. splendens*." It is remarked that it bears Mr. HOVEY's name for the reason that Mr. H. states that it originated in his establishment, but attention is called to the fact "that the plant appears to be identical with *S. ianthina*."

AN OLD YEW TREE.—An old but still vigorous Yew tree is that of which Dr. MASTERS exhibited sprays at a late meeting of the Royal Horticultural Society. The sprays were full of blossoms. The tree is at Buckland, near Dover, and is from eight hundred to nine hundred years old.



PLEASANT GOSSIP.

VASES AND HANGING BASKETS.

MR. VICK:—Will you give some information about plants in vases and hanging-baskets? What plants are most suitable for them, and what kinds grow best together?—S. E. G., *West Mansfield, Mass.*

Plants in vases and hanging-baskets are peculiarly situated in respect to the moisture in the soil; this is constantly subject to rapid evaporation. Not only is there the ordinary drainage, such as plants in pots have and which is absolutely necessary, since stagnant water at the roots would be fatal, but these plant receptacles are placed where they are fully exposed to the sun and to drying winds. The great demand of basket and vase plants is water, and attention to this supply is nearly all the care necessary.

As the number of plants in baskets and vases is usually large for the quantity of soil they contain, it should be rich. What is wanted is a rapid, luxuriant growth, without much regard to the form of individual plants. A good soil for the purpose may be made of about one part of old manure, two parts of rotten sods, and one part of sand. If leaf-mold can be had, an amount of it can be added equal to the sand or the manure, if not, the mixture without it will be quite satisfactory. When the plants have been transplanted to their new quarters and watered, it is necessary to keep them a little shaded for a short time, and, if possible, they should have the advantage of the confined atmosphere of a greenhouse or cold-frame until they make new roots and commence to grow freely. A great mistake is often made by taking these plants into the open air too early in the season. Not only must there be no longer danger of frost, but the night temperature should be high enough to allow them to continue their growth without check. But we would not coddle the plants and keep them inside too long; baskets, with a little care, may be placed out earlier than vases, as they can be taken inside at night, and so guarded as late in the season as may be necessary. The protection afforded by paper or cotton-cloth to a vase will be suffi-

cient for any low night-temperature that may be liable to occur, after the time when tender plants are usually trusted out.

As the plants grow and the amount of foliage increases, the evaporation is more rapid; the waxing heat of summer also hastens it, and water should be supplied according to the growing demand. But, judgment must be used, and when the skies are cloudy less water should be afforded, and in showery weather very little need be applied; on the contrary, drying winds and a bright sun call for a copious supply. Unless proper attention can be afforded them, it would be better to leave baskets and vases to



HANGING BASKET.

those having the time and facilities for their care, for nothing is more offensive to good taste than shabby articles originally intended to be ornamental.

Plants proper for the purpose under consideration may be arranged with advantage in classes as follows: erect plants, trailing plants, twining

plants, handsome foliage plants, and flowering plants. It is almost unnecessary to say that this classification is not exact, neither could any be made, for many plants in either class have qualities that would entitle them to positions in others, but the appropriateness of the arrangement is made evident by the practical results of considering them thus ranked.

Erect Plants.—*Amaranthus salicifolius*, *Amaranthus Sunrise*, *Caladium*, *Canna*, *Coleus*, *Cyperus alternifolius*, *Dracæna*, *Fuchsia*.

Trailing Plants.—*German Ivy*, *Kenilworth Ivy*, *Ivy-leaved Geranium*, annual varieties of *Lobelia*, *Nolana*, *Othonna crassifolia*, *Petunia*, *Tradescantia*, *Saxifraga sarmentosa*, *Vinca major variegata*, *Vinca Harrisonii*.

Twining Plants.—*Ipomœa Quamoclit*, *Madeira Vine*, *Maurandya*, *Pilogyne suavis*, *Thunbergia*, *Tropæolum maius*, *Tropæolum Lobianum*.

Handsome Foliage Plants.—*Abutilon Mespoticum variegatum*, *Acalypha Macafeeana*, *Achyranthes*, *Alternanthera*, *Anthericum vitatum variegatum*, *Ornamental-leaved Begonia*, *Centaurea gymnocarpa*, *Centaurea Candida*, *Cineraria maritima*, *Coleus*, *Euonymus Japonicus aureus*, *Euonymus argenteus*, *Euonymus radicans variegata*, *Farfugium grande*, *Variegated-leaved Geranium*, *Fragrant Geranium*, *Glaucom corniculatum*.

Flowering Plants.—*Ageratum Mexicanum* and var., *Alyssum Colossus*, *Double White Alyssum*, *Alyssum variegatum*, *Alyssum The Gem*, *Begonia*, *Cuphea*, *Fenzlia*, *Fuchsia*, *Geranium*, *Heliotrope*, *Lantana*, *Mahernia odorata*, *Mahernia Hector*, *Mimulus*, *Nierembergia*, *Oxalis floribunda alba*, *Oxalis floribunda rosea*, *Petunia*, *Rivinia*, *Schizanthus*.

The above list contains most of the valuable basket and vase plants commonly to be found in the trade, but not all; there are others more or less used, but these are the most generally useful, and their names, though in most cases only generic, will be found, in connection with descriptive catalogues, sufficiently explicit.

The skilful arrangement of the plants depends upon correct taste acquired by observation and experience, and few useful directions can be given to guide in the operation. The erect plants should occupy the center of the vessel, the trailing plants the extreme edge, twining plants where they will most readily attach themselves to the suspension wires and rods, and flowering and foliage plants should have the intermediate space between the trailing and erect plants. The positions of the plants in relation to each other should be such as secures as great a variety as possible in all respects, and yet harmony of colors must be

observed. The number of plants used in any particular case will depend upon the manipulator; some persons are able to produce the best effects with few plants, others use a greater number. Many plants are quite accommodating as to the number in any small space, as, if few they grow larger, or, if more they adapt themselves to their straightened limits. Happily it is not the full development of the individual plants that we seek, but the graceful massing of them.

TREATMENT AND NAMES OF PLANTS.

MR. VICK:—May I ask a few questions and receive the answers in the columns of the MAGAZINE?

1. I have a *Eucharis Amazonica* growing in a six-inch pot, in the same soil in which it was potted nearly two years ago. It looks perfectly healthy, has one of the first leaves on it yet, and occasionally sends up a new one. Should it be repotted this spring, or let alone as long as it looks well?

2. How shall I treat the scaly bulbs of *Gesnera* that dried off about the holidays?

3. *Oxalis* has outgrown the depth of basket. Will it do to cut off the old roots and reset the crowns?

4. *Mahernia odorata* is a large, thrifty plant, nearly two years old, but has never bloomed, and shows no sign as yet. How should it be treated to coax it to bloom?

5. Is *Tropæolum pentaphyllum* a summer or a winter bloomer, and is it easily cultivated?

6. Can you name a plant from a written description? It grows from a tuber looking like a White Peachblow Potato; the leaves also look as some Potato leaves do when young. In late summer it sends up a stalk about eighteen inches high, with waxy, white, sweet-scented flowers, blooming in pairs, and shaped like the blossoms of Achimenes. There will be several pairs on one stem, three or four inches apart.

7. I enclose a few seed left from some sent to me from Oregon. I cannot succeed in growing them, perhaps you can. The friend also sent a bulb of the same, which is growing nicely. It looks like a Tuberose bulb and comes up like one, but the foliage is a bluish-green. They were labeled *Canna*, and are said to bear a lovely blue flower. Do you know them?—MRS. S. S. P., *Upper Sandusky, O.*

1. After blooming it is best to divide large plants of *Eucharis*, and to repot others into larger pots, as they make bulbs rapidly and soon fill the soil with roots.

2. The *Gesnera* bulbs may be shaken out at this time, and placed thickly in a large pot filled with a mixture of leaf-mold, loam, and sand. As soon as the bulbs have made two or three leaves, they should be potted singly in small pots, in a soil consisting of equal parts of leaf-mold, loam, and rotten manure, with a little sand, and be given a place both warm and moist. As the plants increase in size, shift them into pots of larger size, until they reach five-inch pots, which are large enough. It will not do to expose the plants to the full force of the summer sun, but they should have a slight shade of some kind, either that of the foliage of other plants, or that supplied by other well-known

means. Light watering is demanded, for an abundance of water is death to them. A little weak manure-water occasionally is of much assistance.

3. There is no trouble about dividing and re-planting the Oxalis bulbs; there is no plant that will bear removal with greater indifference.

4. *Mahernia odorata* is a very profuse blooming plant. In this case we should turn the plant out of the pot, remove a portion of the soil, and replace it with some that is fresh and moderately rich, and get a new, strong growth.

5. *Tropaeolum pentaphyllum* blooms the last half of summer and early in autumn, and is of easy culture.

6. The description of the tuberous plant is too indefinite for us to form an opinion of what it really is. It would be some help to know what is its native locality. If it is a wild plant of Ohio our enquirer may be aware of it. But the proper way will be to send some of the flowers and leaves at the time of flowering, with a statement of all the facts known in regard to the plant.

7. The plant here mentioned as *Canna* is *Camassia esculenta*, a description and illustration of which is given on another page.

CARNATIONS IN THE WINDOW.

Will you be kind enough to tell us how to keep Carnations through the winter and have them look as green as those kept in a greenhouse? Do they want water sprinkled on them, or do they want to be kept dry?—H. B.

Tree Carnations in the house should be frequently syringed or sponged, and the foliage thus kept clean; washing the foliage with soft-soap and water will keep it free from the greenfly. The plants need to be fully exposed to the light, and the air should be kept moist by the evaporation of water. A little liquid manure may be given once a week. The Carnation naturally delights in a cool, deep soil, and it is injurious to it as a window-plant to stand where the full force of a bright sun shall strike against the sides of the pot, thus heating the soil to an unnatural degree. With a single plant it is best to set the pot in another pot considerably larger, and pack the space between them with sphagnum or moss, and this, by being kept moist, will preserve a uniformly cool temperature in the soil. If several plants are kept, they could be placed in a proper-sized box of the height of the pots, and vacant space therein filled as already mentioned, or, if moss cannot conveniently be procured, sand, or soil, or sawdust may be used instead. Thus treated as house-plants, Carnations will be found satisfactory, if vigorous when taken in in the fall.

TUBEROSES—ROSES.

MR. VICK:—Will you please tell us how to treat the Tuberose for winter blooming, and what shall we do with them when they are through blooming?

Shall I leave the Perpetual Rose out all winter, or take it up in the fall?—MRS. J. M., *Greenfield, Mass.*

For winter blooming, Tuberose bulbs should be kept over in an airy place until wanted, and then be potted from the middle of July to the last of August. At that season of the year a cold-frame will be an appropriate place for them, keeping the temperature at about 70° in the day time and not much below 60° at night. As the weather becomes cool, the plants must be taken to the house where the proper heat can be maintained. A four-inch pot is the proper size to start them in, but when the flower stems begin to push they should be shifted into five or six-inch pots. The watering at first should be only moderate, but as the foliage becomes more abundant it must be increased. The time of blooming can be controlled considerably by the supply of water in the early stages of growth. Another way that Tuberoses may be had in bloom early in the winter is by planting bulbs in the garden late in spring, so that they will not bloom before frosts. In autumn the plants may be carefully removed to large-sized pots, watered, and kept close for a few days until they have recovered from the removal, and then brought steadily along until they make their flowers.

Hybrid Perpetual Roses are hardy in Massachusetts, but winter protection for them is desirable; they should not be removed from the ground.

STARTING GERANIUMS—CROCUSES.

MR. VICK:—Will you please inform me through the MAGAZINE, when is the proper time to start slips of Geraniums for summer blooming.

I also wish to remind you that you promised to give us some information in regard to cold graperies. I fear it may have escaped your mind in the press of business, hence I have taken this liberty.

I cannot forbear telling you that we have Crocuses blooming (March 28th) in a sheltered situation in the garden, although it is cold, freezing weather, and many are out yet in sleighs. Last year they came into blossom on the 27th of February, and this year about the 15th of March.—MISS L. M. S., *Winchendon, Mass.*

Geraniums for summer-blooming should be started from the cuttings taken from the old plants when they are lifted in the autumn. At that time there is an abundance of the shoots, or branches, that are in suitable condition for cuttings, and there is no other use for them. It requires the full term that intervenes between October and bedding time in spring to produce strong plants that will give satisfaction when bedded.

Cold graperies will receive attention.

WESTERN WILD PLANTS.

MR. JAMES VICK:—I send you by this mail, in a small package, a few bulbs of the plant known in the trade jargon as lakamas, in English, kamas, and I know not if they ever had a Latin appellation. Accompanying them are a few of their seeds—small, black and pink like. They may not germinate, though of last year's growth. This plant has attracted my attention for two reasons, viz: the valuable qualities of its bulb as an edible, and the beauty of the blue flowers which crown it. This plant is a native of this northwest coast country—easterly in spots to Idaho, southerly into Oregon, and northerly I know not how far. I have never found it in the timberlands, but its favorite place is the prairie, generally very gravelly, though where found on better soils it is larger. The bulb has, in former times, furnished to the Flathead tribes of Indians by far the larger supply of their vegetable food. It is gathered at all times of the year, but is best late in summer and in fall, after the flower is dead and the seed-pods ripe. It is still a very important article of food to these Indians, and it has been to them all that the Potato is to the poor of Ireland. It is eaten raw, but oftener roasted in pits and between layers of heated stones; the less intense and longer continued the heat, if just sufficient to cook, the better. When thus cooked, they contain largely gum, starch, and sugar. The bulb grows entirely under ground, and is produced from seed and bulb. The first season after the young bulb starts from seed, it in turn produces seed, and the second season, seeds again and bulblets. It seems to grow where nature has well drained the ground. It is subject here to heavy spring and winter rains, but comparatively dry summers, though I think that no amount of moisture, on well drained ground, will hurt it, and without a doubt it is thoroughly hardy. This vegetable, or plant, may be well known to you, and considered of no consequence, though you could never have seen it in its native soil in bloom and not have admired it. With you it may not find a congenial home, and so not appear to advantage. I take it for granted that you know not of this plant, and trust you will give it a trifle of your attention; at least, let it speak to you in the language of a flower, if it be unworthy of tasting.

You will also find in the package a part of a close-growing rock plant, which, if given a chance, will, I feel certain, attract your favorable notice. This is one of four distinct varieties of the same species. One variety has a leaf nearly as thick as long, being an oblate spheroid, and growing very close together, another is long and round, and the fourth is very thick and broad. All are extremely hardy. The kind I send you is, perhaps, the most common; but a cripple or a female is not likely to see it in its native haunts, for together with the precipice, it will look down upon you, or surround you, covering every crevice in the rock as you look from the steep sides or the craggy tops of the Cascade and Coast ranges of mountains. It flames its bright scarlet, and exhibits its dark purple and its different shades of green, almost to a white, and will seem to say to the beholder, "If you have any love for the beautiful, I now appeal to you." You will feel that you have not climbed the heights in vain; a new feeling will come over you, and one can say, as I have done, "If this be earth no spot is more beautiful!" Nature here far outdoes art, for she seems to add a loving finish with this soft, lustrous, and many-colored plant comparable only in degree to that which the Woodbine lends to the Oak with its covering of beauty. Without a wish to detract aught from the magnificent beauty of your gardens, or grounds, which have done for them all which art can do, I can say truly that the most beautiful spot would not equal many places where this little plant, a specimen of which I send, lends its charm to the otherwise beautiful

scenery. We may not expect to see it when cultivated equal its wild state, still, from actual trial, I know it will be very desirable in cultivation. I have raised it in a flower-pot with plenty of dirt, and it grows rank, too much so, perhaps. In this way no color but green is seen while summer lasts, but when the frost and snow comes 'tis a different plant; after freezing and thawing, exposed to the sun, it gains its scarlet and other hues, and in spring it is the prettiest. Its native soil is decomposed rock, very dry in summer. Its flower is yellow, and without beauty.

I send you these specimens without any other motive than, in my humble way, to save a small portion of beauty from remaining unseen.—GILBERT M. WARD, *Oakville, Wash. Ter.*



CAMASSIA ESCULENTA.

We regret to say that the package here mentioned was never received. As there is no question in our mind about the bulbous plant described, we have prepared an engraving from a source at command. The plant is *Camassia esculenta*, the Quamash or Quamass of the Indians. It is a member of the Lily family, and grows in all the western section of the country, from British America to California and Utah. The root is eaten by the Indians, as it abounds in starch, and is often an important source of their food supply. The pale bluish-violet flowers are borne in spikes raised about eighteen inches high. This plant has been in cultivation for half a century, and is much prized by those acquainted with it. Some varieties of it have been produced from seed, and one, *C. Browni*, is considered quite an improvement on the parent species, on account of larger spikes of bloom. East of the Mississippi, over a great breadth of territory, is found another species, somewhat smaller in size in all its parts, and with flowers of a lighter shade; this is *C. Fraseri*. The bulbs of this species have the same nutritive quality as those of the other.

The rock plants so well described by our correspondent are probably stone-crops, but not having seen the specimens, this is only a surmise.

A SUMMER HOME IN NEW HAMPSHIRE.

The following extract from a letter, by a lady of Boston, shows some of the difficulties to be contended with in subduing and improving grounds in the mountainous parts of New England. There is a zest and satisfaction in the accomplishment of such a work that is intensified by the obstinacy of resistance, and this fact is offered as an encouragement for engaging in similar efforts on places that naturally present a most forbidding aspect:

"By the first of May we leave the city and go to our summer home in New Hampshire for six months. During that time I literally live out of doors, spending hours of each day

in making this desert place "blossom as the Rose," and I depend largely on your MAGAZINE, which I read with the greatest interest, to help me. We enjoy mountain views from our house almost unsurpassed in New Hampshire, or we never would have undertaken such a crusade against the rocks. By the way, can you give me any directions about making rockeries, as that style of gardening is eminently fitted for 'Farview.'

"When I spoke of a third of an acre, I referred to what is in front. Our house stands on an elevation from which the land slopes in every direction, and there is at least an acre which we wish to beautify and adorn with



ROCKERY IN THE NATURAL STYLE.

among my flowers. Our house stands back about seventy-five feet from the road, and last fall we undertook to clear it of rocks, which now and then cropped out above the surface. Men, oxen and powder were brought into requisition, and the result was, rocks enough were taken out to build a chateau, had we chosen to do so, instead of a stone wall. It is now clear and smooth, unless we find, this spring, that the ground has settled in some places, so that it will be necessary to draw on loads of earth. We have about a third of an acre, with a pretty, gradual slope, that is now ready for Lawn Grass seed, for shrubs and trees. The driveway runs along on one side and, when it reaches the house, winds from it around a large oval back into the main drive. This enclosed oval is to be filled with shrubs and flowers. I feel that I have almost a life-work before me

trees suited to the climate and the violent winds of winter. Our predecessor in the house left stones standing, but not a tree, and never planted a tree; indeed, our neighbors all laugh at the regard which we show for little saplings that spring up by the roadside. I shall peruse your GUIDE with reference to the selection of ornamental trees and shrubs. Native forest trees from our own vicinity, perhaps, would do better than others, although my experience has been that country people know little about transplanting. Can you tell me how to succeed with evergreens, how to make rockeries, and what is the simplest and best style of trellis for all sorts of climbers, for I want them everywhere."

In regard to rockeries, it would be well if there were a better understanding generally. We frequently receive inquiries about rockeries,

and the usual idea is that they may be constructed by piling up rocks in a mass and planting in the soil in the crevices between them. Such piles of stones are frequently to be seen, some of them laid up as precisely as if intended for a finished structure of masonry, while others are built with more irregularity, but all of them unnatural in appearance, ugly as individual objects, and positive disfigurements of the grounds occupied. But there is an ideal rockery that is possible. Let us consider. The remark made by our correspondent, that a rockery is a "style of gardening eminently fitted for Farview," is undoubtedly true, and yet many may receive a wrong impression from it. In a location where the sight is met by hills and mountain tops in every direction, nothing will produce a more pleasing effect than a stretch of clear, level ground. This is the result of the contrast. The ideas of strength and majesty are continually presented by the natural elevations, and the eye rests gratefully upon the smooth valley. How appropriate, then, is a lawn with such surrounding views. In the midst of a rich, fertile valley with mountain tops rising high above, how like childish mimicry would appear a pile of stones for a rockery! The idea is too grotesque for serious purpose. Let not such dwellers think of beautifying their grounds with artificial rock structures, while all around them, in imposing majesty, stand the monuments of almighty power.

But the case of our correspondent is different; evidently it is a hill side, or is at the foot of a hill. The rocks crop out from the ground and lie stammered upon it; by hard labor some have been cleared away, the surface smoothed and made ready for a lawn. But all about these rocks appear; nature has made the rockery. How, now, may art beautify it? With running vines planted beside the rocks, their surfaces may be clothed with foliage; in the moist soil beneath their shadow the rootstocks of Ferns will delight to run, rearing by their sides their graceful fronds; in the more open spaces suitable, native and foreign, herbaceous perennial plants will grow and cheer the sight with their bright flowers; so, also, beautiful flowering shrubs will brighten the scene, and trees of different kinds will enrich the landscape and harbor the birds.

This will be a rockery that cannot fail to impress one with its beauty, and, essentially so because of its fitness. But some one may say this is an extreme case. Can no one have a rockery unless surrounded by a desert? Unless by some means a rockery can appear suitable it should not be attempted. It is not meant by this remark that the rocks employed must of

necessity be on the ground, but the impression should be conveyed by the completed work that nature might have had at least a share in it.

In regard to the planting of evergreens, it is important that the roots should not be allowed to dry. In transplanting, which is best done just before they commence to grow in the spring, let the soil be mellow, spread out the roots in natural position, at about the same depth as they were previously, and fill in fine soil all around them, and give a bucket of water before the top soil is placed on.

For trellises use wire. There is nothing like annealed wire for making trellises; it is cheap, and easily worked by any one after a little experience. With a little wire at command, one need not be long in need of vine supports.

SONG OF THE SCIENCES—BOTANY.

What reck I though she be fair
If the flowers are not her care;
If she ponders not upon
Many a Dicotyledon;
If she have no admiration
For all forms of aestivation.

Let her learn through happy hours
Properties of plants and flow'rs;
Know how Water Cress should be
Ranked with the Cruciferæ;
How the Sundew, without question
Darwin tells us, has digestion.

If perchance her ardor burns
For the Cryptogamic Ferns,
She will see how spores become
Cased in the Indusium;
And how wondrously you vary
Scolopendrium vulgare!

She shall calmly learn to state,
Clover is tri-foliate;
And describe, in words exact,
Awn and axis, blade and bract:
So shall I in her sweet presence,
Find my love hath inflorescence.

—Punch.

THE PRENTISS GRAPE.

This new Grape, that has been extensively advertised this winter, is yet but little known. At present it is under a cloud. A. J. CAYWOOD & SON claim to be the originators of it, and that they named it the Hudson; that the parties sending it out have no right to disseminate it; that it is a seedling of the Rebecca; that it is a poor grower, and the vines apt to mildew; that the clusters are small, the skin thick, and the taste of the fruit quite foxy; that they have never offered the Hudson for sale. More than that the parties named above are honorable and trustworthy, we know nothing of the merits of the case, but with such serious charges against it, it is well to be cautious about buying the Prentiss.

BIRDS IN THE WINTER.

MR. JAMES VICK:—I heartily agree with “Jenny Dare,” whose article appeared in your MAGAZINE for March, that much may be done to “cultivate” the birds. Not only the species she mentions, but many others, including some which are commonly called game birds. The Virginia Partridge, sometimes called Quail, may be rendered quite familiar by a little feeding, especially during such a severe winter as the past one has been. A few late Apples left on the trees are very attractive to the Partridge and also to the Wax-wing, or Cedar bird. Then, the merry Blue Jay stays with us all winter, and he and the Butcher bird regale themselves on the eggs of the tent caterpillar, which are found in little rings around the small limbs of trees. The Butcher bird, however, isn’t always so pleasant in the summer, as he is too fond of butchering small birds.

But, is “Jenny Dare” positively certain that the Goldfinch changes its color and remains all winter? We have here, in the winter, a little gray Sparrow, about the size of the Goldfinch, and with the same song. I know that many birds change their color entirely, but should be much surprised to learn that the Goldfinch is one of them. Now, I am, perhaps, a rather backward learner in this beautiful science of Ornithology, and should like positive evidence in this as in all disputed cases.—AVIS.

There are two facts in regard to birds of which many are probably not aware; first, that quite a number of them change their plumage in winter, and, second, that while many birds are tender, and must go south for the winter or perish from the cold, yet some kinds that now migrate could endure the rigors of winter providing they could be fed. It is really a question of food, rather than of climate; and since deep snows deprive these birds of their daily sustenance, they, too, must of necessity go where the weeds, grasses and insects are still to be found.

Now, as these remarks relate to the Yellow birds, or Goldfinches, the best authority states that “They are resident throughout the year in New England, and also throughout the greater portion of the country, their presence or absence being regulated to a large extent by the abundance, scarcity, or absence of their favorite kinds of food.” As to the cold-weather dress of these birds, we learn from the same source that “In winter the yellow is replaced by yellowish-brown; the black of the crown wanting, that of the wings and tail browner. The throat is generally yellowish, the under parts ashy-brown, passing behind into white.”

Perhaps this investigation may lead some of our young readers to recognize the Yellow birds in their plain winter suits.

MIXING CARBOLIC ACID WITH WATER.—One of your correspondents, it appears, has tried to use dilute carbolic acid, and complains that the acid will not mix with water. If an equal part of glycerine is first mixed with the acid the compound will then unite freely with water.—R. K.

VIRGINIA CREEPER ON FRAME HOUSE.

Will the Virginia Creeper growing on a frame house cause the weather-boarding to decay? I have been told that it will rot it in a short time. I have one that nearly covers the side of the house. It is so beautiful I cannot make up my mind to cut it down without being certain in relation to the point about which I enquire. Please say something about it, and oblige ONE OF MANY.

The wood will have a tendency to decay when a climber is growing on a house, but the rapidity of decay will depend much upon the humidity of the atmosphere in the particular locality. A Virginia Creeper ought not to be allowed to attach itself directly to the wood of a house, but be provided with a frame work of wood or wire to run on; still, the injury to a house by contact of vines is so slight that many take no notice of it and let them ramble in all directions over the surface. This course is not advisable. In the case mentioned above, it is not necessary to cut the vine down, for it can easily be detached from the house, and the house painted if desired, and the branches of the vine trained on a trellis that may be erected for it, after thinning out some of the shoots and shortening others.

HOME-GROWN TEA.

To-day I cured some of the Tea, Bohea, sent two years ago from the Agricultural Department at Washington, a sample of which I send you. I have not tried it, but I hope to be refreshed by it in the morning. I simply used an ordinary stove-pan in the stove, moderately warm. I am quite pleased with the odor, but think a single drop of otar of Rose is an improvement; it can be placed on a piece of tissue paper and be dropped in the caddie before the tea is placed in, and it will impregnate the whole. I am satisfied we can grow Tea here, provided the plants are set out in January or February. I received my plants in May, and had great difficulty in keeping them alive through the first summer.—MRS. C. R. B., *St. Elmo, Miss.*

On receipt of this sample of Tea, a “drawing” of it was tried by a committee of three ladies, who unanimously pronounced it good. We wish our Southern ladies all the comfort they can get from home-grown Bohea.

BULBS AFTER FLOWERING.

MR. JAMES VICK:—Would you be kind enough to inform us, through the columns of your excellent MAGAZINE, what is the proper course to pursue with Hyacinth, Narcissus, and Tulip bulbs after flowering; that is to say, are they to be dried up at once, or are they allowed to grow until the leaves turn brown of themselves, before removing from the pots? Also, will either of them flower again in the house.—GEO. H. N., *Providence, R. I.*

After flowering, the bulbs mentioned should be allowed gradually to finish their growth and ripen their bulbs, the completion of which will be indicated by the withering leaves. After once blooming in pots good results should not again be expected of bulbs; they should be given a place in the garden.

FLOWERS ON THE SCHOOL GROUNDS.

For several years we have offered seeds and bulbs to schools at reduced rates, and quite a number in different parts of the country have availed themselves of our offer. Some have objected to our urging the planting of flowers, trees and shrubs around the school grounds, for the reason, as they say, that the children will pay no attention to them, will tramp upon and destroy the flowers. Except in unusual cases, we are sure this is not so, and in evidence of this opinion, we give the following letter, lately received, from the principal of a large, flourishing school in Massachusetts. It tells its own story without comment from us. We would ask teachers and scholars to make a trial in beautifying their school grounds, and are sure they will be rewarded beyond their expectation.

"Knowing your interest in and desire for the cultivation of flowers on public school grounds, I will tell you in a few words that I have had splendid success with all the seeds and bulbs received from your house. We received the first premium, at the County Agricultural Fair, for the best flower garden; first premium on Asters, first premium on Pansies, first premium on Gladioli, first premium on Dahlias, and first premium on cut flowers, arrangement and design considered. We had excellent success with foliage beds of several different kinds. Our pupils are delighted and manifest a great deal of pride in the flowers. They are very considerate, and enjoy the beauty without trespassing. Cannot you induce your patrons to interest themselves in the general cultivation of flowers on all school grounds? Flowers are a great factor in educating and refining the taste, and in cultivating a desire for the study of nature, botany, &c."

CARNATIONS AFTER BLOOMING.

Please tell me how to care for Carnation Pinks after they have bloomed through the winter. Will they bloom again the next winter?—MRS. H. S., *Denver, Colorado.*

The first year of the blooming of a Carnation is the best one, but the plant will bloom fairly well a second time. The best treatment of them, after their first flowering, is to turn them out for the summer in the open border, and lift and repot them in the fall. After repotting, give them the benefit of a cold-frame until established in their new quarters, and take them into the house when the weather demands it.

ANOTHER LARGE RADISH.—I grew a Radish last year, from seed you sent me, that measured thirty-six inches around and twenty-four inches in length. It was tender and a great show.—MARY J. M., *McCalls Station, Ill.*

THE AMARYLLIS.

MR. VICK:—A notice of the Amaryllis in the January number of your MAGAZINE reminds me of a little experience I had, some years since, in growing this beautiful plant in the garden, which perhaps is not generally known, that is, they can be changed from winter to summer-flowering, by keeping the bulbs in the cellar during winter, in the same manner as Gladiolus and other bulbs. They should be planted out about the middle of May, or as soon as the weather and ground is sufficiently warm. It will take from two to four years to change the habit of blooming from winter to summer, at least, this was my experience with *A. Johnsoni* and *A. formosissima*.—C. DOWNING.

COPPERAS FOR PLANTS.

MR. VICK:—Will you please mention in your next MAGAZINE what proportion of copperas to water should be used for Geraniums?—A SUBSCRIBER.

We would not advise copperas to be used for plants. As a manure it is of no particular value. It consists of iron oxide and sulphuric acid combined with water. It is useful for fixing and neutralizing caustic ammonia, and in this capacity consisted its value in the case mentioned by a correspondent last month, in which fresh, unfermented manure was used in potting. It is far better to employ for this purpose only old and well-rotted manure.

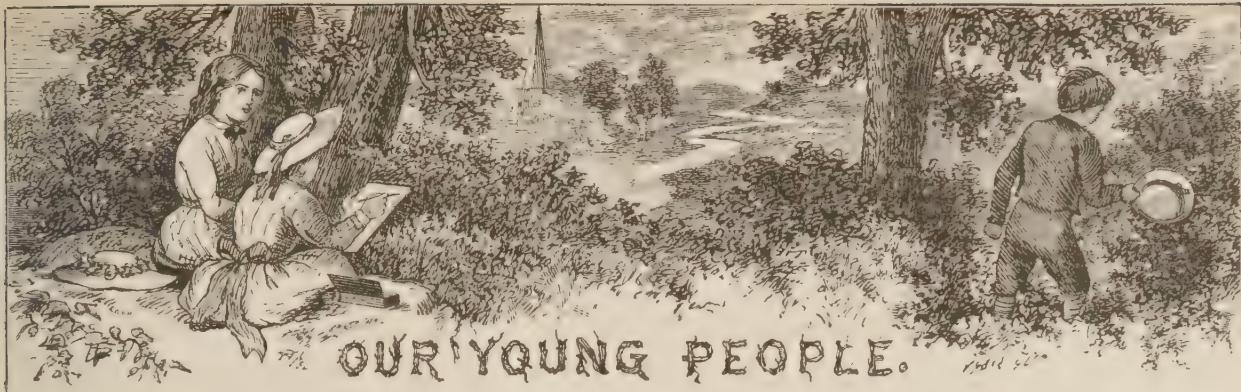
CORKSCREW BEAN.

MR. VICK:—In your MAGAZINE for April, received to-day, one of your correspondents, C. E. PARNELL, gives a description of the Corkscrew Bean, or *Phaseolus Caracalla*. I saw that plant thirty-five years ago, raised from seed brought from Louisiana. I have never seen or heard of one since, and have desired so much to have one. Can you inform me where I can procure seeds or a plant?—A SUBSCRIBER.

We regret to say that we can neither supply the seed wanted nor inform "Subscriber" where to obtain them at this time. Undoubtedly some of our readers are cultivating the plant, and will have seed in autumn.

A MILD WINTER IN OREGON.—A lady, at Dallas, Oregon, writing March 15th, says: "We have had a very pleasant winter in this locality. Pansies have been in bloom, out of doors, almost every week during the winter, and my house-plants have bloomed all winter at a south window, in a room heated by a drum, and without fire through the night."

CALIFORNIA RADISH.—N. H. STEDGER, of Sidney, Kansas, writes, "In seven weeks time last year I grew a good solid California Mammoth Radish that weighed eight and one-half pounds. It was also of excellent quality."



OUR YOUNG PEOPLE.

THE EVENING SUNSET.

The evening sun was setting,
And I, alone, forgetting
That aught of pain or aught of woe
Had place or portion here below ;
For fair the scene, the sky serene,
As bright the sun was setting.

My heart with joy was glowing,
As bright the sky was showing
Its clouds of gold, of fleecy gold,
That slowly near the sunset rolled,
And seemed to love their home above,
As bright the sun was setting.

Close by a bird was trilling
A song so clear and thrilling,
I thought his song told all that tongue
Of human love and praise had sung ;
So sweet the trill, my soul did thrill,
As bright the sun was setting.

O, Father kind ! thy blessing
May I on earth possessing,
So live a life with beauty rife,
That, as the bright and golden light,
My sky shall shine with rays divine,
When the evening sun is setting.

—SYDNEY EMMETT.

MY MOSS CARNATION.

Have all "Our Young People" a magnifying glass? It's likely you'll want one before the summer is over; there are so many things to be learned by inspecting different objects. I find use for mine nearly every day. Recently I found some scale-insects on an English Ivy and took it down and gave it a bath of soap-suds, nicely tinctured with kerosene. A few days afterward I discovered a very prominent insect of the same kind on the vine, and took my glass to discover whether it were really alive, and, with a pin, gently raised one edge of the roof-like formation, and lo! out crawled, in every direction, at least a dozen tiny insects—tiny when magnified—looking exactly like specks of spiders. Well! thought I,

* Never was a brood of chickens
Hoveted in a snugger way ;
But they travel like the dickens !
Sure, there's mischief now to pay.

So I tore off the leaf lest they should get on to other parts of the vine, and fell to wondering how old these little ones must be before their

roofs would be developed, and they'd settle down to hermit life underneath; and—would you believe it?—before I realized what I was doing, I had thrown leaf and all into the fire, instead of putting it under glass and watching and learning for myself all about them!

Quite disgusted, I went to my windows on another exploring expedition; and, high up on a bracket-shelf, midway in a tier of plants, stood a Carnation full of buds. The largest one was showing a tip of crimson, and, as it stood erect, between me and the light, I distinctly saw—could it be possible?—the most beautiful, mossy formation on the entire bud and stem! I had often seen Moss Roses—but Moss Pinks! this was something new. O, delightful! to think such luck should come to me! I instantly resolved that I must

Report my lovely Moss Carnation
In a letter very quick ;
Post it off for explanation
To the famous Mr. VICK.

And when he realizes what a new opening there is about to be in the flower market

Wont he truly be astonished
At a real mossy Pink ?
And, until he be admonished,
Simply scratch his head and think ?

But, in my flurry of excitement, I had dropped my glass, and stooping, and looking, I was thinking very fast, and said to myself, I shall name this new Pink at once; what's the use of delay? Let me think—

There's Eureka, I could name it ;
Nonpareil? no—let me see ;
Proxy? that would only shame it ;
Proxyana it shall be !

Yes, Proxyana has a twang to it that will sound well. By this time the glass was found, a chair drawn up, and mounted thereon I thought that bud lovelier than ever, and leaning forward I proceeded to examine the delicate formation through the glass, and girls! boys! what do you think I saw? I hate to tell you. Just hundreds of insects, so massed together that they formed a coat of armor over that doomed bud: it was an armor of death instead of protection. That bud did not blossom. I did not

write to Mr. VICK. I did not christen that plant. I did not fall off that chair. I coolly stepped down a wiser and a sadder woman. But I did find the scissors, and again the fire received my spoils; this time without after regrets. Then I paid my respects to the kerosene can. But there is no rhythm or rhyme in what I thought and did the next half hour. There was too much turbulence connected with the downfall of blasted hopes and consequent shock of such a discovery.—“PROXY.”

OUR CAT-BIRDS.

Our Cat-birds have been with us four summers, growing more tame and familiar each year. This spring they have built in the Lilac bushes that grow against the side of the house. This is nearer than they ever came before, and we thought the sad fate of the Robins might have had something to do with it. The Robins built in a Poplar tree in the garden, and when

the Cat-birds begin to build. I was so fortunate as to see both the Robins and the Cat-birds building their nests this season, and how differently they go about it! The female Robin constructed her mud-plastered domicile without any assistance whatever from her mate, while the Cat-birds together built their house of sticks, dry grass and withered leaves, some bits of paper, too, were woven into its airy walls. These little folks are the most devoted pair imaginable; before the female began to sit they were inseparable, and the affectionate husband looks quite lonely hopping about the garden-beds by himself, but he is always darting around the corner of the house to take a look at his patient little wife, and ask her how she does, and tell her how he misses her. Really, it is almost enough to put one in a mind to matrimony, to have such a drama of conjugal affection going on before one's eyes from day to day. But, then, one recalls the case of the Robin who a few days after the loss of his whole family, had secured a second wife, and at this present time is housekeeping in a Cherry tree behind the barn, quite oblivious of his first spouse and her tragic end.

The Cat-birds raise two broods in one season, the second following so closely on the first that the care of the young birds devolves on the male, while the female is sitting for the second time. And he is quite equal to the charge, devoting himself to them and to his mate in the most praiseworthy manner. Last year I spent much time observing them; the first brood was hardly fledged when the second nest was built at a short distance from the first, and the young birds could not feed themselves when the female began to sit for the second time. The young birds were kept in a little thicket near their nest-tree—a Thorn with a Grapevine growing over it—and fed by the male. He was in a state of great perturbation, one day, when I called on his young folks, and then walked down to the old willow to see how their mamma was getting along; he flew from the thicket to the willow, and then back, and then to the willow, until, taking compassion on his distress, I left them, and, I am happy to say, he bore me no ill will for my unmannerly intrusion into his domestic circle, but came to see me just the same as ever, and was just as helpful in the garden, catching green-worms, caterpillars, and winged things with the greatest impartiality. To be sure, he varies his fresh-meat diet with Cherries and berries when they are in season, and ill-betide the churl who would begrudge them to him. He will also eat Apples in the spring, before the small fruits are ripe, and I always save some for him, and cut them in half and lay them in



CAT-BIRDS AND NEST.

the young were about two days old, mother and nestlings disappeared; what became of them we never knew, but strongly suspected that a pair of Crows, that had been hovering about the grounds, could have unravelled the mystery.

If the Robins' nest was plundered by the Crows, the Cat-birds, most likely, knew of it, and, as they are remarkably intelligent little creatures, they would, in building their own nest, endeavor to get out of the Crow's reach. The Robins come nearly two months before the Cat-birds, and their first brood is hatched before

the flower-bed under my window. One day I was surprised to see him dine sumptuously on the Sparrows' dry corn-meal; after he learned to eat it he seemed to like it, and often helped himself to the little golden heaps scattered about among the flowers.

The Cat-bird is a genius and a wit, he is no dull plodder, content to dig worms, like the Robin, or catch flies, like the Phœbe-bird; he tries his hand at whatever he sees going on around him, and succeeds in everything he undertakes. I have seen him take insects on the wing, though not so gracefully and surely as Fly-catchers, and he will hunt worms any day with Robin, and he can beat the Cherry-bird at his own game. I have known him to station himself on the lower limb of a tree and watch for his prey, and dart down upon it, capture it, and return to his perch again, precisely after the manner of the Blue-bird. I should not be surprised some fine day to find him circling overhead with the Swallows, or hovering above a flower-cup like a Humming-bird. As to his disposition, he is the most affectionate, harmless, sweet-tempered of all the "bird nation," I do believe. Even the little Song-Sparrow chases him, and Robin domineers over him shamefully.—JENNY DARE.

ANOTHER PEEP AT HARRY'S AQUARIA.

" Halloa, Frank, where are you going with that dip-net and bucket?"

" Down to the creek to get something to stock my tub aquarium. It's time now to make a beginning. Fanny has gone to the woods with some girls to get Woodbine and Ferns to put in the corner back of my pond, at the angle of the house.

" But hold on," said Tom, " we are all invited to spend this afternoon with Harry Blake."

" O, jolly!"

" His mother says he has been brighter and more cheerful since we were there; that our visit seemed to give him a great deal to talk about. Stella and I will call for you on our way."

" But the girls took their dinners, and Fan may not be back in time, unless I do what she said—go and bring home her basket—then I can hurry her up."

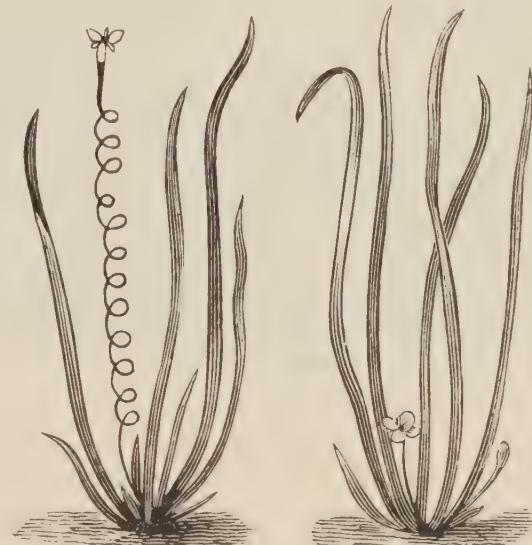
" Well, do that; for it wouldn't be the thing at all to disappoint Harry."

" It wouldn't be the thing to disappoint us."

And so the friends parted. It was a beautiful Saturday morning in early May. There was no hint of school lessons on any of the leaves that were opening out all around them; but the warm sunshine and balmy air sent a

tingle of delight to the very heels of every wide-awake youngster, and made him feel that he ought to have a hand in all the sprouting, and budding, and growing that was going on. The infection had gone through the school, and many plans were being formed for decorating the school and home yards without delay.

Harry Blake sat much of the time with his chair wheeled near one of the windows, noting day by day the rapid growth of everything within his range of vision, from the increasing foliage in the tree-tops to the thickening blades in the turf below. Many long sighs he gave as he saw the elastic step and eager pace of boys whom he knew by name, but who rarely gave a thought to him, unless they chanced to see him with his sister, driving out in his pony-phaeton. To-day, as he sat and looked, he suddenly exclaimed—



VALISNERIA SPIRALIS—PISTILLATE AND STAMINATE.

" Here they are Gracie! go to the door, please."

A moment later Harry's pale, handsome face was flushed with pleasure as he gave them a quiet, earnest greeting. Then Fanny presented him with a bouquet of wild flowers fresh from the woods. Some of them she could not name, and Harry said he would analyze them and tell her the names when next he saw her. Then Stella, with great, pitying eyes, inquired if he had ever been far away into the deep, dim woods, under the grand old trees, with never a sound, unless the note of a bird or the tap of a Woodpecker broke the silence. Harry flushed and paled at the bare thought, and silently shook his head. Then Gracie inquired—

" Harry, dear, would you really like very much to go to some woods? you've never mentioned it."

" O, yes, Gracie; I'd like it better than anythink I can think of. But you know it's impossible."

"No, I don't," she quickly answered, "and before a month is passed you'll see if we don't have you swinging in a hammock among the great giants of the forest." Harry smiled his grateful thanks for his sister's kind thought. Just then an exclamation from Frank indicated that he was already absorbed in watching the mysteries of the fresh-water aquarium.

"Come here, all of you!" he exclaimed, "do you see that eel? well, just now he stiffened himself up perpendicular to the bottom of the tank, and catching hold of a snail, he spun round and round until he had drilled the poor fellow right out of his shell!"



"You notice," said Harry, "that the water is greenish; that is from an excess of the green formation you see on the pebbly bottom and slate ends of the tank; and even on the Calla Lily below the water you can see it in the spaces of the rock-work. It is called *conservæ*. I kept the glass sides clean by using a sponge-stick until I saw the water becoming discolored, and then I sent for a lot of snails for scavengers. I had winkles in the other aquarium, but they would have died had I put them in this fresh water; and, besides, they have enough to do at home. It will take Sir Eel some time to eat all these."

"I had a gold-banded beetle that killed mine," said Tom.

Harry replied that many of the beetles are destructive, but that there is a large one, called the harmless beetle, which is quite safe to have. Then he stirred up one which he called a "whirligig," and teased it until it flew around like a buzz-wheel. Then Grace showed Fanny a piece of mosquito-netting with a hole in the center, and a slit cut from that out to one edge, so they could fit it around the stem of the Calla Lily and shut in the beetle at night.

"What is the name of that red creature that looks so much like a lizard?" asked Fanny, and Harry replied that it was a kind of newt,

called the red salamander, and, though not so grotesque in its actions as its more sober-colored brothers, its gay coat made a beauty-spot in the aquarium.

Then Stella anxiously inquired if the sweet-scented Pond Lily could not be grown in an aquarium. Harry replied that, unlike the Calla, Lobelia cardinalis, Calamus, Arrow-head, Water-plantain, and others, the Pond Lily seems to require nourishment from the soil; while some of the others, if not all, need the earth for anchorage. "But the Pond Lily," he said, "can be put in a pot of earth covered with a heavy layer of pebbles and placed in the bottom

of a large aquarium, and the pot screened from sight according to taste. Although this tank," he added, "is only two feet long, and the Calla so large as to make quite a show, yet you see it is quite out of the way. This rock-work, which serves as anchorage and support, forms also, a basking place for the crawfish, newts, and water-snake, which require to be a part of the time out of water. Then," he continued, "I had a tad-pole once, that wriggled around with a zigzag motion, like a drunken kite, until, final-

ly, two hind legs appeared, and the tail began to dwindle; after a time two fore legs burst through the skin, and his frogship got on the rockery and jumped away."

"My terrapin used to get away," said Tom, until I learned how to keep him in the tank."

"Tell me all about him," said Harry, "I never had one."

"Well, he's scarcely two inches long on the back, and in the two years that I've had him I cannot see that he's grown a particle. He's a knowing fellow, and paddles toward us when we approach the tank. I did have two others, a mud-turtle and a leather-back, but the three destroyed so many fishes that I let the others go. It seems that the fishes know a thing or two, and they have learned to keep

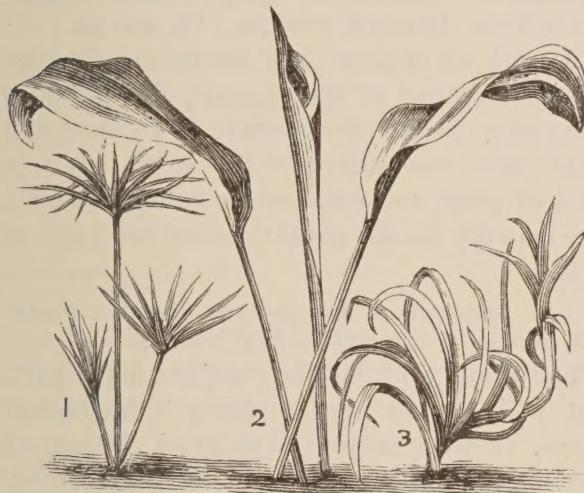
out of his way, so that Mr. Terrapin never dines on fish now, unless I put in a new lot; then he gets a taste until they, too, learn his habits and dodge out of his way. But with



ANACHARIS CANADENSIS.
WATER THYME.

three turtles in there they had but a poor chance for life."

Then Stella inquired the names of two plants that were growing entirely submerged. Harry informed her that the one with tape-like leaves was *Valisneria spiralis*, and that the other was the Water Thyme, and grows equally well whether anchored or floating, and every particle of it is self-propagating. Also, that it is a native of Canada, and a bit of it once having been sent to a member of the Cambridge Botani-



AQUARIUM PLANTS.

1. *Cyperus alternifolius*; 2. *Aspidistra lurida*; 3. *Reineckea carnea*.

cal Society, England, it increased so fast on his hands that he threw some of it into a drain that emptied into the river Cam, where it soon became so plentiful as to seriously interfere with the boating.

"You will notice," continued Harry, "those minute globules clinging thickly to the stems of these plants. They are pure oxygen, thrown out to supply the animal life, otherwise nothing, you know, could live long in the water."

Then Harry confessed that, after all, the fresh water aquarium, containing the animal and plant life of the country around him, was his favorite, but added that he now wanted to show them a fight in the other tank. So Grace brought a jar that contained a lonely hermit-crab, (with only a bit of *Valisneria* in the water) and emptied it alongside the other Crab in the tank. Immediately they went at it in the most awkward, clumsy, determined way imaginable, and continued until they were separated.

Then, for a time, Stella and Fanny gave their entire attention to the beautiful anemones, the wonderful serpulae and the toilet-making spider-crab. For an hour they vibrated between the two tanks, and then Harry was surprised by a charming little supper brought into the room for himself and his friends; after which, a few more last looks at the tanks, a few more good-byes and another parting.—AUNT MARJORIE.

REFLECTIONS WITH THE FLOWERS.

Is there not something unexpressibly touching and sweet in the way the early spring flowers show their delicate faces, just peeping above the dry and withered leaves as if afraid to venture too far into the cold! How lovely they are, so perfectly unconscious of their bare surroundings. Who does not feel a peculiar tenderness and affection for the lovely Snowdrop, with its matchless, pure white petals just peeping above the desolate, chilling snows which are melting fast, as if ashamed to maintain their cold presence before its modest beauty and delicacy!

The timid Violets, how humbly they make their appearance! Are not these first flowers the sweetest, or do they seem so because they are the first to greet us? As we gather them how inspiring they are. Sometimes they bring to mind thoughts of beloved ones, such sweet, pure thoughts, that we cannot help sending them as gifts, for they seem to express what we can only feel.

When the earth is teeming with new life, moved to activity by the warm sun, I always feel like sitting still, with folded hands, and watching the young buds. I can almost see the brown sod turning green, as the rain patters and glistens in a million drops on each little shoot. How erect stand the leaves, and seemingly glad to catch the drops of rain, and feel the warmth of the sun's rays! What marvellous adaptation one sees in nature! Nothing jars; all is perfect harmony—the sun loves the flowers and the flowers the sun; they are made for each other. Perhaps this is the secret of my desire to watch them; the harmony is so complete.

"To him who in the love of nature holds
Communion with her visible forms, she speaks
A various language."

The children are casting longing eyes on the distant hills and the solemn woods, remembering last year's flowers; it is amusing to listen to their talk and watch their actions. Fred has been trying experiments; a flower pot stands in the window, covered with a broken pane of glass; it is half filled with soil, and seeds lie buried, placed there by his little hands. Each day he removes the glass and examines the appearance of the soil, while, with thoughtful air he watches for the young, green shoots.

Joe, quite as interesting but less practical, talks of last year's flowers, the wild Violet and the lowly *Tiarella*, which grows close to the earth, among the dry and decayed leaves, showing numberless tiny, white blossoms resembling starry crowns. Fred expresses a cordial wish that a *Jack-in-the-Pulpit* will be ready waiting,

just in the very spot where his astonished eyes were gladdened with one last year. Nothing will do, but I must decide when to go with them, and, though spring work and home duties are crowding, I am quite satisfied that I cannot afford to neglect the children's wishes for the gratification of a day's ramble in the woods.

Imagination carries me back to my childhood, in England. I am sitting on a bench without a back, holding a book on the title page of which is inscribed the word "Botany." I remember how I read over my lesson again and again; it consisted of dry, technical words of which I had not the least comprehension. How listless I felt! how I sighed for the green fields, the pure flowers, and the blue sky! But my teacher insisted that the lesson must be learned, and that I must not grow up to be a dunce; "you must know something of this delightful science." One lucky day I carried my grief and my book to a beloved and sympathizing father; dear, good man, he is in heaven now, but how well I can recall his expression, as he turned over the leaves and, without a word, placed the book on the fire. None but myself can know with how much pleasure I watched each leaf as it curled into ashes in the bright, open fire-place. My teacher was to blame; she was commencing the study of flowers at the top, instead of the bottom. Had she said to her pupils, "It is a lovely day, and we will take a stroll into the lanes and gather the fresh flowers," she would have early implanted in our young minds a true devotion for the beautiful in nature, instead of exciting antipathy for a study which, if rightly imparted, may prove an inestimable blessing.—M. H. S.

NEW PUBLICATIONS.

Handbook of Plants. By Peter Henderson. New York: Peter Henderson & Co. Pp. 410.

A gardening manual, containing short notices or descriptions of most of the cultivated plants. The derivations of the botanical names are given and, also, most of the common names by which they are known. The manner of propagating and cultivating the principal plants are briefly sketched, and interesting facts in reference to them stated. The work also contains a glossary of botanical and general horticultural terms and practices. The whole forms a very useful book of reference for gardeners and others. Some errors and inaccuracies will, no doubt, be corrected in a future edition.

Transactions of the Illinois State Horticultural Society. 1880.

A handsome volume, and containing many interesting and excellent reports and discussions.

But that which particularly gives it a greater than sectional interest is a report, by Professor T. J. BURRILL, on botany and vegetable physiology, and of which the Pear and Apple-tree blight is the subject. In this paper Professor B. gives an account of experiments conducted by him to investigate the nature and the cause of the blight, and claims to have found an organism, *Bacterium*-like, always present in the sap or new tissues of the diseased trees.

Island Life, or the Phenomena and Causes of Insular Faunas and Floras. By Alfred Russell Wallace. New York: Harper & Brothers. Pp. 500; \$4.

A work of peculiar and fascinating interest to those desirous of investigating the questions pertaining to the distribution of animals and plants upon the surface of the earth. It is a book of great research, and its author shows a rare capacity for the generalization and logic of facts.

Modern Architectural Designs and Details. Part 6. By Bicknell & Comstock. New York; \$1.

The whole work will be complete in ten parts and will contain eighty finely lithographed plates, showing new and original designs of dwellings, of moderate cost, in the Queen Anne, Eastlake, Elizabethian, and other styles.

Quebracho Bark. Translated from the German of Dr. Adolph Hansen. Illustrated by three plates containing twenty-five lithographic figures. Reprint of the Therapeutic Gazette.

This is a botanic-pharmacognostic essay upon the bark of a South American tree, now known as *Aspidosperma Quebracho*, and is of particular interest to physicians and druggists.

Report of the Fruit Growers' Association of the Province of Ontario, for the year 1880.

Transactions of the Indiana Horticultural Society for 1880. Pp. 165.

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